

ABSTRACT

Input-output coefficients for processing green beans, lima beans, leafy greens, okra, southern peas, and squash were used to derive five plant models for each vegetable (except okra, for which three models were derived). Finished product processing rates of 1,500, 6,000, 12,000, 18,000 and 22,500 pounds per hour were examined. Three season lengths, two raw product prices, and three finished product prices were included to analyze their effects on costs and returns.

The objective of this study was to determine whether initial investment in vegetable freezing plants could be recovered in 10 years. Results indicated that investment in single-product freezing operations could be recovered with at least one combination of raw and finished product prices, season length, and processing rate for all of the vegetables except squash. Okra was the only vegetable indicating profitability with an hourly processing rate as low as 6,000 pounds.

Key words: Vegetables, processing, efficiency, freezing plants, frozen vegetables.

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Washington, D.C. 20250

April 1971

SUMMARY AND CONCLUSIONS

Vegetables produced in the South, most of which are sold in the fresh market, might have a new outlet if food processing in the region were increased. This study of model vegetable freezing plants indicates that such plants might be operated profitably at certain levels of plant size and prices.

Plant models with five hourly output capacities, three processing season lengths, two raw product prices, and two finished product prices were used to derive costs and returns from operating single-product processing plants. The vegetables processed were green beans, lima beans, leafy greens, okra, southern peas, and squash.

Net returns were calculated for each plant model at all combinations of prices and season lengths. The capital value in the first year was determined by discounting net returns over a 10-year period, plus the discounted salvage value of buildings and equipment. Annual net returns were assumed to remain constant throughout the 10 years.

Freezing operations were considered profitable if the capital value was greater than the initial investment, excluding costs of land and interest on investment. Results of the study indicated that all of the vegetables except squash were profitable at one or more combinations of plant size, prices, and season length.

Green bean freezing plants were profitable at more combinations (19 out of 90) of plant size and prices than any of the other vegetables. Green beans were profitable when season length was 700 hours or more and packout capacity was at least 12,000 pounds per hour. However, they were profitable at this level of processing only in the models with the lowest raw product price and highest finished product price.

Lima bean freezing plants were indicated to be profitable at six combinations of plant size and prices, okra at seven, and southern peas at 13. Freezing of leafy greens became profitable at two combinations of plant size and product prices.

Land costs were not included in the analysis because of the wide variations in land values. However, this omission is not considered to be critical since land costs would be a minor part of the total investment; and appreciation in land values would tend to offset the opportunity costs of land. Hence, there would be very little, if any, negative effect upon the profitability of the investment.

This study evaluated all investments in a single-product context. Most vegetable freezing plants process more than one product and thereby benefit from the economies associated with jointly used inputs. For this reason, some single-product investments could be expected to become profitable when incorporated with one or more other products.

The supply of raw product was assumed in this study but would be a critical factor in evaluating the feasibility of building a new processing plant or expanding an existing facility.

The demand for frozen vegetables is a primary factor in the profitability of a freezing plant. Frozen vegetables must compete with canned and fresh vegetables for the consumer's dollar. Consumer acceptance is so vital that a market outlet--regional, national, or international--must be established before a large freezing plant could be constructed in the South and expected to operate at a profitable level.

COMMERCIAL FREEZING OF SIX VEGETABLE CROPS IN THE SOUTH

Factors Affecting Economic Feasibility of Single-Product Operations

by

John R. Brooker and James L. Pearson*

INTRODUCTION

Production of vegetables in the South has traditionally been oriented toward fresh market outlets. The possibility of increasing quantities sold to processors has been discussed with varying degrees of enthusiasm by both farmers and processors. Expansion of food processing in the South depends primarily on three factors: Sufficient quantities of raw product at mutually acceptable prices, ability of the processing plant to operate efficiently, and ability of the plant to sell its products.

To evaluate the profitability of large, modern vegetable freezing operations, this study assumed that sufficient quantities of raw products would be available. To substantiate this assumption, raw product prices were selected to represent prices received by producers in other major producing areas. Corollary assumptions were implied with respect to yields and production costs.

The second factor, ability to operate efficiently, was the major focal point of this analysis. Six vegetables--green beans, lima beans, leafy greens, okra, southern peas, and squash--which are of considerable importance in regional or national consumption, and suitable for production in the South, were selected for an analysis of factors affecting the economic feasibility of vegetable freezing operations. In this study, a processing activity was considered profitable if it returned the investment cost plus the market rate of interest on invested capital less the plant's salvage value by the end of a 10-year planning horizon.

The ability of a new processing plant to sell its product would probably be the most difficult of the three assumptions to satisfy. An existing company with well-established markets could invest in a new facility and know reasonably well what its sales potential would be. A new firm without established markets would be facing a very competitive market where demand is already being met by existing suppliers and only through vigorous sales effort could entry into the market be obtained.

The objective of this study was to determine the effects of processing plant size, season length, finished product price, and raw product price on the economic feasibility of investments in vegetable freezing plants. Only single-product plants have been analyzed in this study.

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Further research needs to be done on the potential availability of raw product for processing in the South, and on marketing arrangements between growers and processors that will satisfy the requirements of both groups.

PLANT MODELS FOR VEGETABLE FREEZING

Input-output coefficients for processing the six vegetables selected for this study were published by the Southern Regional Marketing Research Technical Committee. 1/ Economic-engineering methodology and surveys of actual operations were used to develop these coefficients. This basic data reference describes the flow of product, equipment, buildings, and other input requirements for each model plant.

Five plant models, with hourly processing rates of 1,500, 6,000, 12,000, 18,000, and 22,500 pounds of finished product, were derived for each vegetable except okra. Model plants for okra did not include the two largest sizes. The smallest of the model plants is an obviously inefficient size for a single-product processing plant; the largest is larger than most existing plants in the South.

To illustrate the effects of varying the total output within each plant model, three processing season lengths were associated with each plant model. Model plants processing green beans were analyzed with seasons of 500, 700, and 900 hours; lima beans, leafy greens, and southern peas, seasons of 300, 500, and 700 hours; and okra and squash, seasons of 100, 300, and 500 hours.

The fluidized freezing technique was selected for green beans, lima beans, okra, southern peas, and squash, which are suitable for individual quick freezing (hereafter I.Q.F.). Leafy greens are the only vegetable in this study which was not suitable for I.Q.F. techniques. 2/ Since leafy greens must be packaged prior to freezing, rack tunnel freezers were used in these model freezing plants.

Packaging was limited to three containers: 10-ounce retail cartons, 20-ounce retail poly (polyethylene) bags, and 2-1/2-pound institutional cartons. The total U.S. frozen vegetable pack by size of container as published by the National Association of Frozen Food Packers 3/ was used to derive the distribution of finished product among these three containers (table 1). Green beans, lima beans and southern peas were packaged 50 percent in 10-ounce cartons, 25 percent in 2-1/2-pound cartons, and 25 percent in 20-ounce poly bags. Leafy greens, okra, and squash were packaged 65 percent in 10-ounce cartons and 35 percent in 2-1/2-pound cartons.

Automated packaging techniques specifically adapted for I.Q.F. vegetables were used for all of the containers. For the plants freezing leafy greens, automatic carton fillers were used to fill the cartons prior to freezing.

1/ Pearson, James L., and John R. Brooker (eds.). Planning Data for Marketing Selected Fruits and Vegetables in the South: Part II--Freezing Handbook. Sou. Cooperative Ser. Bul. 150, N.C. State Univ., Dec. 1969.

2/ Some processors are using I.Q.F. for small amounts of certain types of leafy greens, but feasibility of the process has not been verified.

3/ National Association of Frozen Food Packers. Frozen Food Pack Statistics, 1968. Washington, D.C., April 1969.

Table 1.--Percentage distribution by weight of vegetables packaged in three types of containers, model plants freezing specified vegetables

| Vegetable | Retail containers | | 2-1/2-lb. |
|------------------------------|-------------------|---------------------|--------------------------|
| | 10-oz. cartons | 20-oz. poly bags | institutional cartons |
| | -----Percent----- | | |
| Green beans <u>1/</u>: | 50 | 25 | 25 |
| Lima beans <u>2/</u>: | 50 | 25 | 25 |
| Leafy greens <u>3/</u> ...: | 65 | -- | 35 |
| Okra: | 65 | -- | 35 |
| Southern peas <u>4/</u> ...: | 50 | 25 | 25 |
| Squash <u>5/</u>: | 65 | -- | 35 |

1/ Includes regular cut, french cut, and whole.

2/ Includes baby, emerald, and fordhook.

3/ Includes collards, mustard greens, and turnip greens.

4/ Includes black-eyed, creme, crowder, field, lary, purple hull, white acre, etc.

5/ Includes all summer type squash.

Initial Investment

Initial investment requirements for buildings and equipment are summarized in table 2. Investment in land was not estimated because of the wide variation of land values. As would be expected, investment requirements increased as plant size increased. Requirements for initial investment also increased as season length was increased. This was caused by the enlarged freezer storage capacity required by a larger annual volume. It was specified that product sales be evenly distributed throughout the year with no carryover, thus requiring larger storage capacity with larger annual packouts.

Freezer storage area was fixed at five alternative capacities--1.125, 3.400, 5.700, 11.400, and 22.900 million pounds. The size selected for each plant model was based on the total pack less the quantity sold during the processing season. The initial investment for each plant model (table 2) shows where it was necessary to advance to the next larger freezer storage size. The 1,500-pounds-per-hour model for the six vegetables included the same freezer storage capacity for all lengths of season. Increased cost for bulk bins and pallets was the only adjustment necessary as season length and annual volume increased. However, with the 6,000-pounds-per-hour model for green beans it was necessary to advance to the 3,400,000-pound freezer storage capacity when season length increased from 700 to 900 hours. This trend applied to all of the larger model plants--as annual packout increased with longer season, it was

Table 2.--Initial investment in building and equipment, by length of season and hourly processing capacity, model plants freezing specified vegetables

| Vegetable and length of season | Hourly finished product capacity | | | | |
|-----------------------------------|----------------------------------|--------------|---------------|---------------|---------------|
| | 1,500 pounds | 6,000 pounds | 12,000 pounds | 18,000 pounds | 22,500 pounds |
| -----Dollars----- | | | | | |
| Green beans: | | | | | |
| 500 hours | 575,008 | 1,182,636 | 1,812,255 | 2,534,298 | 3,193,437 |
| 700 hours | 575,557 | 1,217,936 | 1/2,205,243 | 2,616,890 | 1/3,441,914 |
| 900 hours | 581,099 | 1/1,341,800 | 2,212,241 | 1/3,154,429 | 3,462,911 |
| Lima beans: | | | | | |
| 300 hours | 543,776 | 967,422 | 1,367,520 | 1,720,220 | 2,019,075 |
| 500 hours | 544,226 | 969,230 | 1/1,529,976 | 1/2,084,401 | 1/2,357,687 |
| 700 hours | 544,537 | 970,467 | 1,539,405 | 2,098,539 | 2,371,875 |
| Leafy greens: | | | | | |
| 300 hours | 453,911 | 1,097,238 | 1,534,543 | 2,425,465 | 2,710,369 |
| 500 hours | 454,372 | 1,099,083 | 1/1,666,814 | 1/2,751,558 | 1/3,037,846 |
| 700 hours | 454,691 | 1,100,342 | 1,669,334 | 2,755,338 | 3,042,564 |
| Okra: | | | | | |
| 100 hours | 646,175 | 864,835 | 1,371,592 | --- | --- |
| 300 hours | 646,783 | 1/1,042,561 | 1/1,569,057 | --- | --- |
| 500 hours | 647,248 | 1,044,406 | 1/1,718,637 | --- | --- |
| Southern peas: | | | | | |
| 300 hours | 559,072 | 975,816 | 1,369,352 | 1,735,236 | 2,034,049 |
| 500 hours | 559,522 | 977,624 | 1/1,531,807 | 1/2,099,417 | 1/2,372,561 |
| 700 hours | 559,833 | 978,861 | 1,541,236 | 2,113,555 | 2,386,749 |
| Squash: | | | | | |
| 100 hours | 647,720 | 846,775 | 1,324,470 | 2,058,421 | 2,286,450 |
| 300 hours | 648,328 | 1/1,024,501 | 1/1,521,935 | 1/2,228,914 | 1/2,471,746 |
| 500 hours | 648,793 | 1,026,346 | 1/1,671,515 | 1/2,582,700 | 1/2,833,011 |

1/ Indicates larger investment in freezer storage capacity required than that of the preceding season length.

Source of basic data: Sou. Cooperative Ser. Bul. 150, tables 2, 4, 5, 8, 9, 10, 14, 16, 17, 18, 20, 22, 23, 24, 27, 28, 29, 30, 36, 37, 39, 41, 42, 45, 47, 48, 49, 57, 59, and 60.

necessary to increase the storage capacity. For one okra processing plant and three squash processing plants, it was necessary to increase the storage capacity for both increments in season length.

Since I.Q.F. vegetables can be stored in bulk containers and packaged at a rate different from the processing rate, two criteria were established for selecting the most desirable packaging rate. The criteria were (1) maximizing the length of employment for workers when packaging costs were not increased more than 10 percent and (2) maintaining year-round packaging capabilities to comply with even sales distribution throughout the year. These specifications required a large proportion of the quantity in storage to be in bulk containers and hence a larger investment in bulk bins than would be required with some alternative specifications concerning sales and employment conditions.

Packaging costs per pound of finished product at 90 percent efficiency ^{4/} are shown in figures 1, 2, and 3. For 10-ounce cartons (fig. 1), once the volume reaches 5 million pounds, the economies associated with increasing volume become less important for all line sizes. Except for the smallest of annual volumes, packaging at 6,000 pounds per hour was shown to be the most economical packaging rate within the range of annual volumes considered in this study.

For 2-1/2-pound cartons (fig. 2), the 12,000-pounds-per-hour packaging rate provided the least costs except at the lower annual volumes, with the 6,000-pounds-per-hour rate only slightly higher. The effects of higher fixed investment and increased efficiency with increasing volume are dramatically shown at 18,000 pounds per hour. Further important economies were available to the largest packaging line at annual volumes above 4 million pounds.

Costs for packaging in 20-ounce poly bags (fig. 3) again showed a tendency to level off after reaching a volume of approximately 4 million pounds. Packaging rates of 6,000, 12,000, and 18,000 pounds per hour had costs that were very close together for large annual packs.

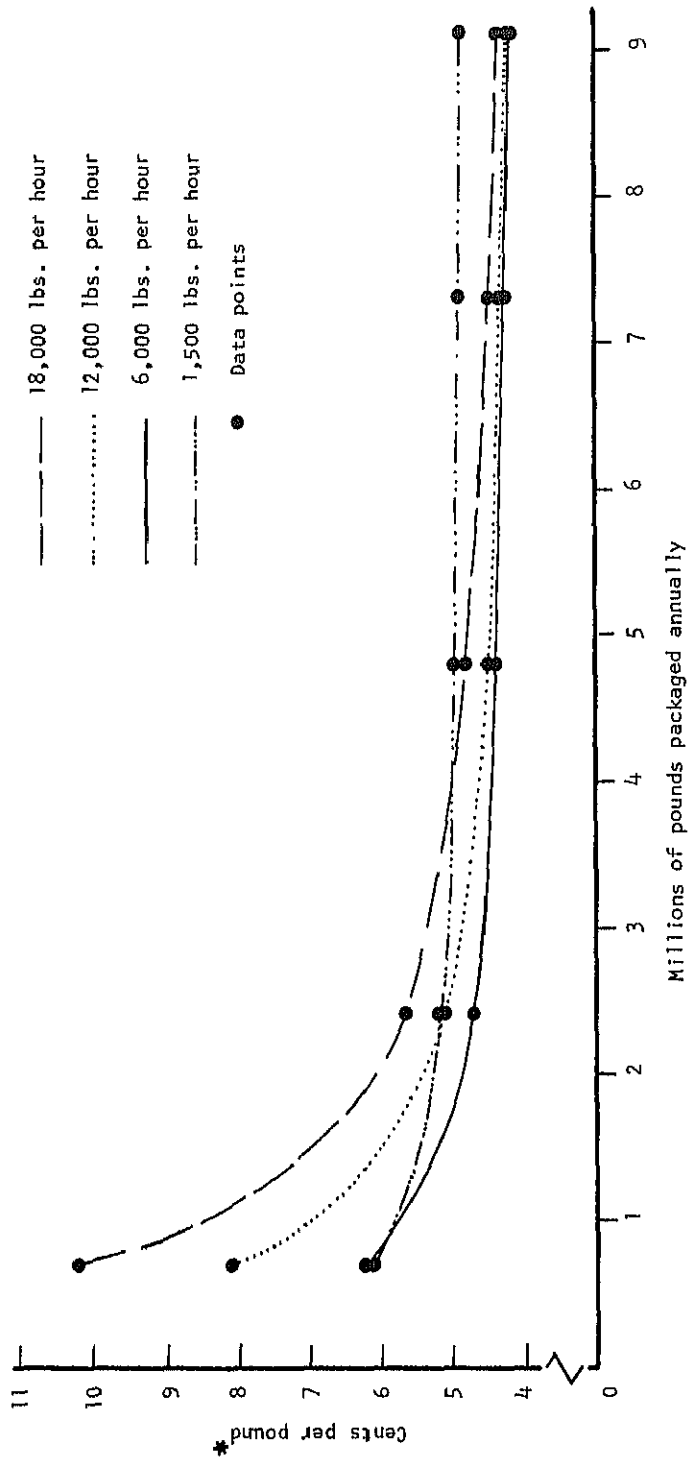
To comply with the criteria for employment and sales previously given, the packaging rate of 6,000 pounds per hour for each container size was selected to be used by all model plants for I.Q.F. products.

Operating Costs

Total operating cost was divided into two categories--annual and hourly. Annual operating costs include those expenses which are incurred on an annual basis or are related to the annual packout. Hourly operating costs are those incurred directly with each hour of operation.

^{4/} Efficiency as used in this context means the percentage of rated capacity.

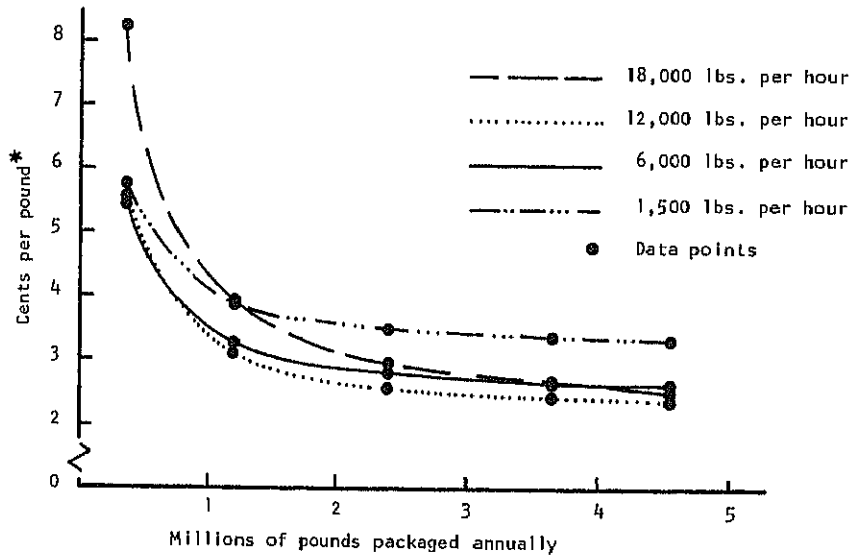
MODEL PLANTS PACKAGING FROZEN VEGETABLES IN 10-OZ. CARTONS



*AVERAGE COST PER POUND OF FINISHED PRODUCT.

Figure 1

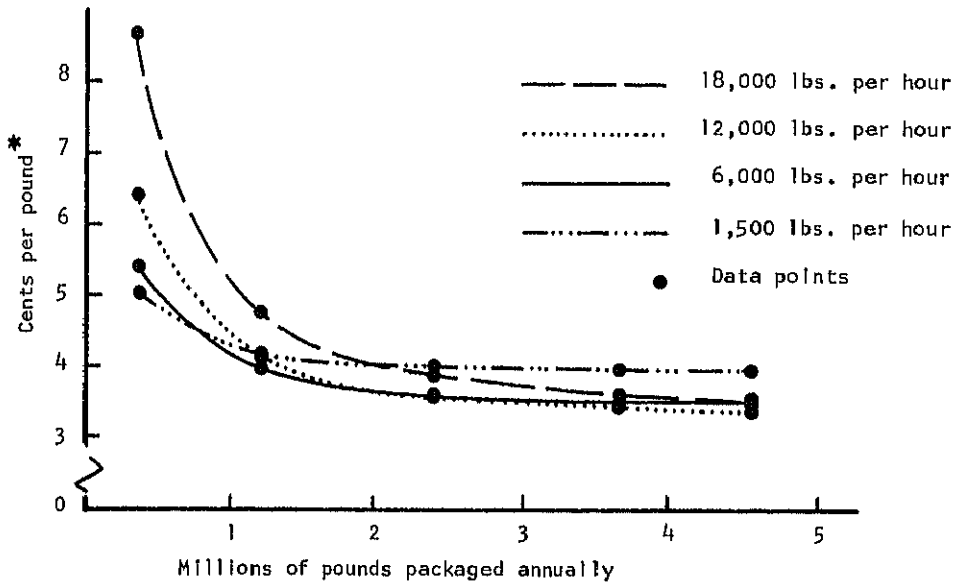
MODEL PLANTS PACKAGING FROZEN VEGETABLES IN 2½-LB. CARTONS



*AVERAGE COST PER POUND OF FINISHED PRODUCT.

Figure 2

MODEL PLANTS PACKAGING FROZEN VEGETABLES IN 20-OZ. POLY BAGS



*AVERAGE COST PER POUND OF FINISHED PRODUCT.

Figure 3

Annual Operating Costs

These costs include salaries, brokerage fees, office expenses, property taxes, inventory taxes, interest on operating capital, insurance, annual maintenance, and a miscellaneous category.

Salaried employees as specified for each plant size, regardless of commodity or length of season, are given in table 3. In addition to Social Security, 5 percent has been added to the cost of salaried employees to cover fringe benefits. Totals for this expense category ranged from \$25,457 for the smallest plant size up to \$206,492 for the largest plant.

Brokerage fees and office expenses varied with the total revenue of each freezing plant and were estimated to be 4 percent and 2 percent, respectively, of total revenue. Advertising, travel expenses, and other miscellaneous expenses were covered in a miscellaneous category which was also estimated at 2 percent of total revenue. Inventory taxes were estimated at 0.25 percent of total revenue.

Property taxes and insurance were estimated to be 1 percent of initial investment while annual maintenance was estimated at 1.5 percent of initial investment. Interest ^{5/} on operating capital was the second largest annual operating cost and could vary even more widely than in this analysis because of factors such as inventory size, accounts receivable, and other highly variable operational conditions. Interest on operating capital was estimated at 8 percent of total hourly operating costs.

Six annual operating costs were obtained for each plant size and season length. This was necessary since these costs varied with season length as well as price of raw product and total revenue. ^{6/} Average annual operating costs per pound of finished product as related to packout capacity, season length, raw product price, and finished product price for each vegetable are given in tables 4-9. (See appendix tables 1-18 for total annual operating costs).

For green beans, lima beans, okra¹, southern peas, and squash, average annual operating costs increased as raw product and finished product prices increased for a given plant size and season length. Even when raw product prices remain unchanged, the average annual operating cost increased as finished product prices increased. Leafy greens deviated from this pattern slightly, mainly because of the smaller operating capital requirements for financing raw product purchases compared with the other five vegetables.

Hourly Operating Costs

These costs are those items that vary directly with the hours of operation. They include such items as hourly labor, containers, utilities, ^{7/} supplies, and

^{5/} Interest on long-term capital for initial investment excluded.

^{6/} Total revenue affects annual operating cost because cost items such as brokerage fees are a percentage of sales.

^{7/} Note that this includes disposal of effluent at a per unit cost through locally available facilities.

Table 3.--Annual operating cost of salaried employees, by number of employees and hourly processing capacity, model vegetable-freezing plants

| Employee | Hourly finished product capacity | | | | | | | | | | | |
|--------------------------|----------------------------------|-------------|-----------|----------------------|-------------|-----------|----------------------|-------------|-----------|----------------------|-------------|-----------|
| | 1,500 pounds : | | | 6,000 pounds : | | | 12,000 pounds : | | | 18,000 pounds : | | |
| | Em- : employees : | Cost : : | Dol. : | Em- : employees : | Cost : : | Dol. : | Em- : employees : | Cost : : | Dol. : | Em- : employees : | Cost : : | Dol. : |
| No. | No. | Dol. | No. | No. | Dol. | No. | No. | Dol. | No. | No. | Dol. | No. |
| General manager | 1 | 15,000 | 1 | 17,500 | 1 | 20,000 | 1 | 22,500 | 1 | 25,000 | 1 | 25,000 |
| Sales manager | - | --- | 1 | 12,500 | 1 | 15,000 | 1 | 17,500 | 1 | 20,000 | 1 | 20,000 |
| Production manager | - | --- | - | --- | 1 | 12,000 | 1 | 14,000 | 1 | 16,000 | 1 | 16,000 |
| Plant superintendent .. | - | --- | 1 | 9,000 | 1 | 9,000 | 1 | 10,000 | 1 | 11,000 | 1 | 11,000 |
| Field superintendent .. | - | --- | 1 | 10,000 | 1 | 11,500 | 1 | 13,000 | 1 | 14,000 | 1 | 14,000 |
| Personnel manager | - | --- | - | --- | 1 | 8,000 | 1 | 8,500 | 1 | 9,000 | 1 | 9,000 |
| Office manager | - | --- | - | --- | - | --- | 1 | 8,500 | 1 | 9,000 | 1 | 9,000 |
| Secretary | 1 | 4,500 | 1 | 4,500 | 2 | 4,500 | 2 | 4,500 | 2 | 4,500 | 2 | 4,500 |
| Clerk | - | --- | 2 | 3,800 | 3 | 3,800 | 4 | 3,800 | 5 | 3,800 | 5 | 3,800 |
| Typist | - | --- | - | --- | 1 | 3,800 | 2 | 3,800 | 2 | 3,800 | 2 | 3,800 |
| Plant engineer | - | --- | - | --- | 1 | 8,000 | 1 | 8,500 | 1 | 9,000 | 1 | 9,000 |
| Mechanic | - | --- | 1 | 7,500 | - | --- | 1 | 7,000 | 1 | 7,000 | 1 | 7,000 |
| Yield control | - | --- | - | --- | 1 | 7,000 | 1 | 7,500 | 1 | 8,000 | 1 | 8,000 |
| Quality control | - | --- | - | --- | - | --- | - | --- | - | --- | - | --- |
| supervisor | - | --- | 1 | 7,500 | 1 | 7,000 | 1 | 7,500 | 1 | 8,000 | 1 | 8,000 |
| Custodian | 1 | 4,000 | 1 | 4,250 | 1 | 4,500 | 1 | 4,750 | 1 | 5,000 | 1 | 5,000 |
| Night watchman | - | --- | 1 | 5,000 | 1 | 5,250 | 1 | 5,500 | 1 | 5,700 | 1 | 5,700 |
| Warehouse supervisor .. | - | --- | 1 | 7,500 | 1 | 7,500 | 1 | 7,750 | 1 | 8,000 | 1 | 8,000 |
| Total | | 23,500 | | 92,850 | | 138,950 | | 174,300 | | 190,300 | | 190,300 |
| Social security | | 782 | | 3,602 | | 5,282 | | 6,442 | | 6,677 | | 6,677 |
| Fringe benefits | | 1,175 | | 4,643 | | 6,948 | | 8,712 | | 9,515 | | 9,515 |
| | | 25,457 | | 101,095 | | 151,180 | | 189,457 | | 206,492 | | 206,492 |

Cooperative Ser. Bul. 150, table 6.

Table 4.--Model plants freezing green beans: Average annual operating cost per pound of finished product, by hourly finished product capacity, season length, finished product price, and raw product price

| Hourly finished product capacity and season length | 18.50 cents per pound of finished product | | | 20.25 cents per pound of finished product | | | 22.00 cents per pound of finished product | | |
|--|---|----------------------------------|----------------------------------|---|----------------------------------|----------------------------------|---|----------------------------------|----------------------------------|
| | \$100 per ton : of raw product : | \$125 per ton : of raw product : | \$150 per ton : of raw product : | \$100 per ton : of raw product : | \$125 per ton : of raw product : | \$150 per ton : of raw product : | \$100 per ton : of raw product : | \$125 per ton : of raw product : | \$150 per ton : of raw product : |
| 1,500 pounds: | | | | | | | | | |
| 500 hours | 9.55 | 9.67 | 9.69 | 9.81 | 9.84 | 9.96 | | | |
| 700 hours | 7.57 | 7.69 | 7.72 | 7.83 | 7.86 | 7.98 | | | |
| 900 hours | 6.48 | 6.60 | 6.62 | 6.74 | 6.77 | 6.89 | | | |
| 6,000 pounds: | | | | | | | | | |
| 500 hours | 7.81 | 7.93 | 7.96 | 8.08 | 8.10 | 8.22 | | | |
| 700 hours | 6.33 | 6.45 | 6.48 | 6.59 | 6.62 | 6.74 | | | |
| 900 hours | 5.56 | 5.68 | 5.71 | 5.83 | 5.83 | 5.95 | | | |
| 12,000 pounds: | | | | | | | | | |
| 500 hours | 6.43 | 6.54 | 6.57 | 6.69 | 6.72 | 6.83 | | | |
| 700 hours | 5.48 | 5.60 | 5.63 | 5.74 | 5.77 | 5.89 | | | |
| 900 hours | 4.80 | 4.91 | 4.94 | 5.06 | 5.08 | 5.20 | | | |
| 18,000 pounds: | | | | | | | | | |
| 500 hours | 5.89 | 6.01 | 6.03 | 6.15 | 6.18 | 6.29 | | | |
| 700 hours | 4.91 | 5.03 | 5.06 | 5.18 | 5.20 | 5.32 | | | |
| 900 hours | 4.50 | 4.62 | 4.64 | 4.76 | 4.79 | 4.91 | | | |
| 22,500 pounds: | | | | | | | | | |
| 500 hours | 5.56 | 5.69 | 5.70 | 5.84 | 5.84 | 5.99 | | | |
| 700 hours | 4.75 | 4.87 | 4.89 | 5.01 | 5.04 | 5.15 | | | |
| 900 hours | 4.22 | 4.34 | 4.37 | 4.48 | 4.51 | 4.63 | | | |

-----Cents per pound-----

Table 5.--Model plants freezing lima beans: Average annual operating cost per pound of finished product, by hourly finished product capacity, season length, finished product price, and raw product price

| Hourly finished product capacity and season length | 20.25 cents per pound of finished product | | | 22.25 cents per pound of finished product | | | 24.25 cents per pound of finished product | | |
|--|---|----------------|---------|---|----------------|---------|---|----------------|---------|
| | \$175 per ton | of raw product | per ton | \$175 per ton | of raw product | per ton | \$175 per ton | of raw product | per ton |
| | product | : | product | product | : | product | product | : | product |
| -----Cents per pound----- | | | | | | | | | |
| 1,500 pounds: | | | | | | | | | |
| 300 hours | 14.40 | | 14.51 | 14.57 | | 14.67 | 14.73 | | 14.84 |
| 500 hours | 9.69 | | 9.79 | 9.85 | | 9.96 | 10.02 | | 10.12 |
| 700 hours | 7.79 | | 7.90 | 7.96 | | 8.06 | 8.12 | | 8.23 |
| 6,000 pounds: | | | | | | | | | |
| 300 hours | 11.28 | | 11.38 | 11.44 | | 11.55 | 11.61 | | 11.71 |
| 500 hours | 7.91 | | 8.02 | 8.08 | | 8.18 | 8.24 | | 8.35 |
| 700 hours | 6.46 | | 6.57 | 6.63 | | 6.73 | 6.79 | | 6.90 |
| 12,000 pounds: | | | | | | | | | |
| 300 hours | 9.01 | | 9.12 | 9.18 | | 9.28 | 9.34 | | 9.45 |
| 500 hours | 6.66 | | 6.77 | 6.82 | | 6.93 | 6.99 | | 7.10 |
| 700 hours | 5.58 | | 5.69 | 5.75 | | 5.85 | 5.91 | | 6.02 |
| 18,000 pounds: | | | | | | | | | |
| 300 hours | 8.00 | | 8.10 | 8.16 | | 8.27 | 8.33 | | 8.43 |
| 500 hours | 6.11 | | 6.21 | 6.27 | | 6.38 | 6.44 | | 6.54 |
| 700 hours | 5.17 | | 5.28 | 5.34 | | 5.44 | 5.50 | | 5.61 |
| 22,500 pounds: | | | | | | | | | |
| 300 hours | 7.41 | | 7.51 | 7.57 | | 7.68 | 7.74 | | 7.84 |
| | 5.71 | | 5.81 | 5.87 | | 5.98 | 6.04 | | 6.14 |
| | | | 4.99 | 5.05 | | 5.15 | 5.21 | | 5.32 |

ive Ser. Bul. 150, tables 6 and 7.

Table 6.--Model plants freezing leafy greens: Average annual operating cost per pound of finished product, by hourly finished product capacity, season length, finished product price, and raw product price

| Hourly finished product capacity and season length | 13.60 cents per pound of finished product | | | 14.60 cents per pound of finished product | | | 15.60 cents per pound of finished product | | |
|--|---|-----------------------------|-----------------------------|---|-----------------------------|-----------------------------|---|-----------------------------|-----------------------------|
| | \$40 per ton of raw product | \$60 per ton of raw product | \$40 per ton of raw product | \$40 per ton of raw product | \$60 per ton of raw product | \$40 per ton of raw product | \$40 per ton of raw product | \$60 per ton of raw product | \$40 per ton of raw product |
| 1,500 pounds: | | | | | | | | | |
| 300 hours | 12.43 | 12.52 | 12.51 | 12.61 | 12.59 | 12.70 | 12.59 | 12.70 | 12.70 |
| 500 hours | 8.24 | 8.34 | 8.32 | 8.42 | 8.41 | 8.50 | 8.41 | 8.50 | 8.50 |
| 700 hours | 6.45 | 6.54 | 6.53 | 6.62 | 6.61 | 6.71 | 6.61 | 6.71 | 6.71 |
| 6,000 pounds: | | | | | | | | | |
| 300 hours | 10.50 | 10.59 | 10.58 | 10.68 | 10.66 | 10.76 | 10.66 | 10.76 | 10.76 |
| 500 hours | 7.02 | 7.12 | 7.11 | 7.20 | 7.19 | 7.28 | 7.19 | 7.28 | 7.28 |
| 700 hours | 5.53 | 5.63 | 5.62 | 5.71 | 5.70 | 5.79 | 5.70 | 5.79 | 5.79 |
| 12,000 pounds: | | | | | | | | | |
| 300 hours | 8.13 | 8.23 | 8.21 | 8.31 | 8.29 | 8.39 | 8.29 | 8.39 | 8.39 |
| 500 hours | 5.68 | 5.78 | 5.77 | 5.86 | 5.85 | 5.95 | 5.85 | 5.95 | 5.95 |
| 700 hours | 4.57 | 4.66 | 4.65 | 4.74 | 4.73 | 4.83 | 4.73 | 4.83 | 4.83 |
| 18,000 pounds: | | | | | | | | | |
| 300 hours | 7.45 | 7.55 | 7.53 | 7.63 | 7.62 | 7.71 | 7.62 | 7.71 | 7.71 |
| 500 hours | 5.34 | 5.44 | 5.43 | 5.52 | 5.51 | 5.60 | 5.51 | 5.60 | 5.60 |
| 700 hours | 4.32 | 4.42 | 4.40 | 4.50 | 4.49 | 4.58 | 4.49 | 4.58 | 4.58 |
| 22,500 pounds: | | | | | | | | | |
| 300 hours | 6.75 | 6.84 | 6.83 | 6.93 | 6.91 | 7.01 | 6.91 | 7.01 | 7.01 |
| 500 hours | 4.88 | 4.98 | 4.96 | 5.06 | 5.05 | 5.14 | 5.05 | 5.14 | 5.14 |
| 700 hours | 3.99 | 4.09 | 4.07 | 4.17 | 4.15 | 4.25 | 4.15 | 4.25 | 4.25 |

Source of basic data: Sou. Cooperative Ser. Bul. 150, tables 6 and 7.

Table 7.--Model plants freezing okra: Average annual operating cost per pound of finished product, by hourly finished product capacity, season length, finished product price, and raw product price

| Hourly finished product capacity and season length | 23.60 cents per pound of finished product | | | 25.60 cents per pound of finished product | | | 27.60 cents per pound of finished product | | |
|--|---|-----------------------------|-----------------------------|---|-----------------------------|-----------------------------|---|-----------------------------|-----------------------------|
| | \$60 per ton of raw product | \$80 per ton of raw product | \$60 per ton of raw product | \$60 per ton of raw product | \$80 per ton of raw product | \$60 per ton of raw product | \$60 per ton of raw product | \$80 per ton of raw product | \$60 per ton of raw product |
| 1,500 pounds: | | | | | | | | | |
| 100 hours | 39.25 | 39.35 | 39.42 | 39.52 | 39.58 | 39.68 | | | |
| 300 hours | 15.09 | 15.19 | 15.26 | 15.36 | 15.42 | 15.52 | | | |
| 500 hours | 10.27 | 10.37 | 10.44 | 10.53 | 10.60 | 10.70 | | | |
| 6,000 pounds: | | | | | | | | | |
| 100 hours | 27.34 | 27.43 | 27.50 | 27.60 | 27.67 | 27.76 | | | |
| 300 hours | 11.42 | 11.52 | 11.59 | 11.68 | 11.75 | 11.85 | | | |
| 500 hours | 8.00 | 8.09 | 8.16 | 8.26 | 8.33 | 8.42 | | | |
| 12,000 pounds: | | | | | | | | | |
| 100 hours | 21.37 | 21.47 | 21.53 | 21.63 | 21.70 | 21.80 | | | |
| 300 hours | 9.22 | 9.31 | 9.38 | 9.48 | 9.55 | 9.64 | | | |
| 500 hours | 6.77 | 6.86 | 6.93 | 7.03 | 7.10 | 7.19 | | | |

Source of basic data: Sou. Cooperative Ser. Bul. 150, tables 6 and 7.

Table 8.--Model plants freezing southern peas: Average annual operating cost per pound of finished product, by hourly finished product capacity, season length, finished product price, and raw product price

| Hourly finished product capacity: and season length | : 22.00 cents per pound of finished product | | | : 24.00 cents per pound of finished product | | | : 26.00 cents per pound of finished product | | |
|---|---|------------------------------|--------------------------|---|------------------------------|--------------------------|---|------------------------------|--------------------------|
| | \$175 per ton of raw product | \$200 per ton of raw product | \$200 per ton of product | \$175 per ton of raw product | \$200 per ton of raw product | \$200 per ton of product | \$175 per ton of raw product | \$200 per ton of raw product | \$200 per ton of product |
| -----Cents per pound----- | | | | | | | | | |
| 1,500 pounds: | | | | | | | | | |
| 300 hours | 14.46 | 14.57 | | 14.63 | 14.73 | | 14.79 | 14.90 | |
| 500 hours | 9.94 | 10.04 | | 10.10 | 10.21 | | 10.27 | 10.37 | |
| 700 hours | 7.99 | 8.10 | | 8.16 | 8.26 | | 8.32 | 8.43 | |
| 6,000 pounds: | | | | | | | | | |
| 300 hours | 11.43 | 11.54 | | 11.60 | 11.70 | | 11.76 | 11.87 | |
| 500 hours | 8.06 | 8.17 | | 8.23 | 8.34 | | 8.39 | 8.50 | |
| 700 hours | 6.62 | 6.73 | | 6.79 | 6.89 | | 6.95 | 7.06 | |
| 12,000 pounds: | | | | | | | | | |
| 300 hours | 9.15 | 9.26 | | 9.32 | 9.42 | | 9.48 | 9.59 | |
| 500 hours | 6.80 | 6.90 | | 6.96 | 7.07 | | 7.13 | 7.23 | |
| 700 hours | 5.71 | 5.81 | | 5.87 | 5.98 | | 6.04 | 6.14 | |
| 18,000 pounds: | | | | | | | | | |
| 300 hours | 8.14 | 8.25 | | 8.31 | 8.41 | | 8.47 | 8.58 | |
| 500 hours | 6.25 | 6.36 | | 6.41 | 6.52 | | 6.58 | 6.69 | |
| 700 hours | 5.31 | 5.42 | | 5.48 | 5.58 | | 5.64 | 5.75 | |
| 22,500 pounds: | | | | | | | | | |
| 300 hours | 7.55 | 7.66 | | 7.72 | 7.82 | | 7.88 | 7.99 | |
| 500 hours | 5.85 | 5.95 | | 6.01 | 6.12 | | 6.18 | 6.28 | |
| 700 hours | 5.02 | 5.13 | | 5.19 | 5.29 | | 5.35 | 5.46 | |

Source of basic data: Sou. Cooperative Ser. Bul. 150, tables 6 and 7.

Table 9.--Model plants freezing squash: Average annual operating cost per pound of finished product, by hourly finished product capacity, season length, finished product price, and raw product price

| | : 16.30 cents per pound of | | | : 17.30 cents per pound of | | | : 18.30 cents per pound of | | |
|-------------------|----------------------------|---------------|--------------|----------------------------|--------------|---------------|----------------------------|---------------|--------------|
| Hourly finished | finished product | | | finished product | | | finished product | | |
| product capacity: | \$80 per ton | \$100 per ton | \$80 per ton | \$100 per ton | \$80 per ton | \$100 per ton | \$80 per ton | \$100 per ton | \$80 per ton |
| and season | of raw | of raw | of raw | of raw | of raw | of raw | of raw | of raw | of raw |
| length | product | product | product | product | product | product | product | product | product |
| : | : | : | : | : | : | : | : | : | : |
| : | -----Cents per pound----- | | | | | | | | |
| 1,500 pounds: | | | | | | | | | |
| 100 hours | 38.59 | 38.68 | 38.67 | 38.77 | 38.75 | 38.85 | | | |
| 300 hours | 14.43 | 14.52 | 14.51 | 14.61 | 14.60 | 14.69 | | | |
| 500 hours | 9.63 | 9.72 | 9.71 | 9.80 | 9.79 | 9.89 | | | |
| : | | | | | | | | | |
| 6,000 pounds: | | | | | | | | | |
| 100 hours | 26.54 | 26.63 | 26.62 | 26.71 | 26.70 | 26.79 | | | |
| 300 hours | 10.71 | 10.81 | 10.80 | 10.89 | 10.88 | 10.97 | | | |
| 500 hours | 7.32 | 7.41 | 7.40 | 7.49 | 7.48 | 7.57 | | | |
| : | | | | | | | | | |
| 12,000 pounds: | | | | | | | | | |
| 100 hours | 20.51 | 20.61 | 20.59 | 20.69 | 20.68 | 20.77 | | | |
| 300 hours | 8.50 | 8.60 | 8.58 | 8.68 | 8.67 | 8.76 | | | |
| 500 hours | 6.08 | 6.17 | 6.16 | 6.25 | 6.24 | 6.34 | | | |
| : | | | | | | | | | |
| 18,000 pounds: | | | | | | | | | |
| 100 hours | 18.37 | 18.46 | 18.45 | 18.55 | 18.53 | 18.63 | | | |
| 300 hours | 7.69 | 7.78 | 7.77 | 7.86 | 7.85 | 7.95 | | | |
| 500 hours | 5.65 | 5.75 | 5.74 | 5.83 | 5.82 | 5.91 | | | |
| : | | | | | | | | | |
| 22,500 pounds: | | | | | | | | | |
| 100 hours | 16.35 | 16.45 | 16.44 | 16.53 | 16.52 | 16.61 | | | |
| 300 hours | 6.99 | 7.09 | 7.07 | 7.17 | 7.16 | 7.25 | | | |
| 500 hours | 5.20 | 5.29 | 5.28 | 5.38 | 5.36 | 5.46 | | | |
| : | | | | | | | | | |

Source of basic data: Sou. Cooperative Ser. Bul. 150, tables 6 and 7.

raw product. (See appendix tables 1-18 for total hourly operating costs:)

Raw product prices were set at two levels to demonstrate their effect and are based on average prices received by producers in recent years (table 10).

Table 10.--Raw product price and percentage yield of finished product per ton of farm weight, model plants freezing specified vegetables

| Vegetable | Price per ton | | Finished product as Percentage of raw product |
|---------------------|----------------|------|---|
| | Low | High | |
| | <u>Dollars</u> | | <u>Percent</u> |
| Green beans | 100 | 125 | 85 |
| Lima beans | 175 | 200 | <u>1</u> /95 |
| Leafy greens | 30 | 40 | 83 |
| Okra | 60 | 80 | 83 |
| Southern peas | 175 | 200 | <u>1</u> /95 |
| Squash | 80 | 100 | 85 |

1/ Based on shelled farm weight.

Wage rates for laborers as used in this analysis varied from \$1.60 per hour for the unskilled workers to \$3 for skilled workers. A general labor category included employees who could not be assigned to a particular processing stage (table 11).

The cost of the raw product as a percentage of total hourly operating costs ranged from 37 percent to 57 percent for the plants freezing green beans, 42 to 66 percent for lima beans, 14 to 29 percent for leafy greens, 17 to 38 percent for okra, 48 to 66 percent for southern peas, and 24 to 51 percent for squash.

Average hourly operating cost per pound of finished product (including labor, supplies, utilities, and raw product) as related to plant size, season length, and raw product price is given in tables 12 and 13. As season length increased for the 1,500- and 6,000-pounds-per-hour plants, the cost per pound decreased. However, for green beans and leafy greens, the cost per pound at 12,000 pounds per hour increased with the second season length but decreased with the third season length. This also occurred at 18,000 pounds per hour with southern peas, lima beans, and leafy greens.

Table 11.--Number of employees and wage rates for specified jobs in model vegetable-freezing plants of various sizes

| Job description | Hourly finished product capacity | | | | | Wage per hour |
|---------------------------------|----------------------------------|-----------------|------------------|------------------|------------------|---------------------|
| | 1,500 pounds | 6,000 pounds | 12,000 pounds | 18,000 pounds | 22,500 pounds | |
| | <u>Employees</u> | | | | | <u>Dollars</u> |
| Refrigeration mechanic | 1 | 1 | 1 | 1 | 1 | 2.50 |
| Electrician | - | 1 | 1 | 2 | 2 | 3.00 |
| Tool room clerk | - | - | 1 | 1 | 1 | 2.00 |
| Maintenance man | 1 | 1 | 2 | 2 | 3 | 2.25 |
| Quality Control | 1 | - | 1 | 2 | 3 | 2.00 |
| Cleanup man | 1 | 2 | 3 | 4 | 5 | 1.60 |
| Warehouseman | 1 | 1 | 2 | 3 | 4 | 2.00 |
| Forklift operator | 1 | 1 | 1 | 2 | 2 | 2.10 |
| Boiler attendant | - | 1 | 1 | 1 | 1 | 2.00 |

Source of basic data: Sou. Cooperative Ser. Bul. 150, table 6.

en beans, lima beans, and leafy greens: Average hourly operating cost
 ury finished product capacity, season length, and raw product price

| Hourly finished : product capacity: and season length | Raw product price | | | | | |
|--|-------------------|---------|------------|---------|--------------|---------|
| | Green beans | | Lima beans | | Leafy greens | |
| | \$100 | \$125 | \$175 | \$200 | \$30 | \$40 |
| | per ton | per ton | per ton | per ton | per ton | per ton |
| -----Cents per pound----- | | | | | | |
| 1,500 pounds: | | | | | | |
| 300 hours | --- | --- | 21.81 | 23.12 | 13.11 | 13.72 |
| 500 hours | 15.93 | 17.40 | 17.79 | 19.10 | 11.79 | 12.39 |
| 700 hours | 15.68 | 17.16 | 17.62 | 18.94 | 11.22 | 11.82 |
| 900 hours | 15.46 | 16.92 | --- | --- | --- | --- |
| 6,000 pounds: | | | | | | |
| 300 hours | --- | --- | 15.94 | 17.26 | 8.95 | 9.55 |
| 500 hours | 12.70 | 14.17 | 15.53 | 16.85 | 8.54 | 9.14 |
| 700 hours | 12.80 | 14.27 | 15.20 | 16.52 | 8.37 | 8.97 |
| 900 hours | 12.74 | 14.23 | --- | --- | --- | --- |
| 12,000 pounds: | | | | | | |
| 300 hours | --- | --- | 15.00 | 16.32 | 7.94 | 8.27 |
| 500 hours | 11.63 | 13.10 | 14.98 | 16.29 | 7.93 | 8.53 |
| 700 hours | 11.90 | 13.37 | 14.97 | 16.29 | 7.79 | 8.39 |
| 900 hours | 11.75 | 13.22 | --- | --- | --- | --- |
| 18,000 pounds: | | | | | | |
| 300 hours | --- | --- | 14.87 | 16.18 | 7.94 | 8.55 |
| 500 hours | 11.65 | 13.12 | 14.95 | 16.27 | 8.06 | 8.66 |
| 700 hours | 11.55 | 13.02 | 14.78 | 16.09 | 7.88 | 8.48 |
| 900 hours | 11.73 | 13.20 | --- | --- | --- | --- |
| 22,500 pounds: | | | | | | |
| 300 hours | --- | --- | 14.69 | 16.00 | 7.69 | 8.30 |
| 500 hours | 11.38 | 12.85 | 14.75 | 16.07 | 7.78 | 8.38 |
| 700 hours | 11.62 | 13.10 | 14.61 | 15.93 | 7.64 | 8.24 |
| 900 hours | 11.48 | 12.95 | --- | --- | --- | --- |

Source of basic data: Sou. Cooperative Ser. Bul. 150, tables 6, 11, 12, 13, 15, 19, 21, 25, 31, 32, 33,

Table 13.--Model plants freezing okra, southern peas, and squash: Average hourly operating cost per pound of finished product, by hourly finished product capacity, season length, and raw product price

| Hourly finished : product capacity: and season : length : | Raw product price | | | | | | | | | |
|--|-------------------|---------|---------|---------|---------|---------------|---------|---------|---------|---------|
| | Okra | | | | | Southern peas | | | | |
| | \$60 | \$80 | \$175 | \$200 | \$100 | \$60 | \$80 | \$175 | \$200 | \$100 |
| | per ton | per ton | per ton | per ton | per ton | per ton | per ton | per ton | per ton | per ton |
| -----Cents per pound----- | | | | | | | | | | |
| 1,500 pounds: | | | | | | | | | | |
| 100 hours | 21.22 | 22.42 | --- | --- | --- | --- | --- | --- | --- | --- |
| 300 hours | 15.89 | 17.10 | 19.13 | 20.45 | 21.12 | 19.95 | 21.12 | 19.95 | 21.12 | 21.12 |
| 500 hours | 14.98 | 16.19 | 18.12 | 19.44 | 16.44 | 15.26 | 16.44 | 15.26 | 16.44 | 16.44 |
| 700 hours | --- | --- | 17.66 | 18.97 | 15.52 | 14.34 | 15.52 | 14.34 | 15.52 | 15.52 |
| 6,000 pounds: | | | | | | | | | | |
| 100 hours | 13.29 | 14.49 | --- | --- | --- | --- | --- | --- | --- | --- |
| 300 hours | 12.28 | 13.49 | 15.89 | 17.20 | 13.44 | 12.27 | 13.44 | 12.27 | 13.44 | 13.44 |
| 500 hours | 11.88 | 13.08 | 15.48 | 16.80 | 12.78 | 11.61 | 12.78 | 11.61 | 12.78 | 12.78 |
| 700 hours | --- | --- | 15.31 | 16.62 | 12.38 | 11.20 | 12.38 | 11.20 | 12.38 | 12.38 |
| 12,000 pounds: | | | | | | | | | | |
| 100 hours | 12.16 | 13.36 | --- | --- | --- | --- | --- | --- | --- | --- |
| 300 hours | 11.35 | 12.55 | 14.89 | 16.20 | 12.14 | 10.96 | 12.14 | 10.96 | 12.14 | 12.14 |
| 500 hours | 11.34 | 12.55 | 14.88 | 16.20 | 11.86 | 10.68 | 11.86 | 10.68 | 11.86 | 11.86 |
| 700 hours | --- | --- | 14.75 | 16.07 | 11.81 | 10.63 | 11.81 | 10.63 | 11.81 | 11.81 |
| 18,000 pounds: | | | | | | | | | | |
| 100 hours | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 300 hours | --- | --- | 14.74 | 16.05 | 12.21 | 11.04 | 12.21 | 11.04 | 12.21 | 12.21 |
| 500 hours | --- | --- | 14.86 | 16.17 | 11.75 | 10.57 | 11.75 | 10.57 | 11.75 | 11.75 |
| 700 hours | --- | --- | 14.68 | 16.00 | 11.87 | 10.69 | 11.87 | 10.69 | 11.87 | 11.87 |
| 22,500 pounds: | | | | | | | | | | |
| 100 hours | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 300 hours | --- | --- | 14.59 | 15.91 | 11.94 | 10.76 | 11.94 | 10.76 | 11.94 | 11.94 |
| 500 hours | --- | --- | 14.68 | 16.00 | 11.56 | 10.39 | 11.56 | 10.39 | 11.56 | 11.56 |
| 700 hours | --- | --- | 14.54 | 15.68 | 11.62 | 10.44 | 11.62 | 10.44 | 11.62 | 11.62 |

perative Ser. Bul. 150, tables 6, 11, 12, 13, 40, 44, 46, 50, 58, and 62.

The seemingly inconsistent variation in average hourly costs was caused by electrical requirements for freezer storage because of the limited choice among five freezer storage facilities in this study. Within a particular plant model an increase in season length may cause a need for a larger storage freezer, thus increasing the cost of electric power per pound of finished product.

Figures 4-9 illustrate the relationship between plant size and average total operating cost as annual plant volume was increased by increasing the length of the processing season. For all six vegetables the average total operating cost decreased as the volume per year increased.

Average total operating costs decreased rapidly at first as annual volume became larger, then continued to decrease at a decreasing rate. Okra and squash were assumed to have the shortest seasons (100 hours); the extreme inefficiency of a single-product plant with such a short season is obvious. Increasing the annual volume from 135,000 to 675,000 pounds reduced the average total operating cost for the 1,500-pounds-per-hour plants nearly 60 percent.

The economies to be derived from increasing season length of a freezing plant were greater in the distribution of annual costs among a larger packout than from savings with hourly costs.

RETURNS FROM SINGLE-PRODUCT PLANTS

Annual net revenue for single-product freezing plants was related to both plant size and length of processing season. In this analysis, cost reductions per unit of output or economies of size were obtained by two means: first, increasing plant size, and second, increasing the number of processing hours per season. Season length as used here is the same as processing hours per year.

Prices received for the finished product as used in this analysis are given in table 14. For each vegetable, three prices were selected per container size, thus providing a means of illustrating the effects of changes in price on net revenue. These prices were obtained by synthesizing price information from processors in the South and from The Food Institute's Report on Food Markets. ^{8/}

Appendix tables 1-18 list the total revenue, operating cost, and annual net revenue for the various model vegetable-freezing plants. The effect of increasing plant size from 1,500 to 22,500 pounds per hour on costs and revenues is observable in each of these tables. For example, in appendix table 1, total revenue from the sale of green beans with 500-hour seasons ranged from \$148,500 at 1,500 pounds per hour to \$2,227,500 at 22,500 pounds per hour. Total operating costs for these plants also increased from \$184,696 to \$1,907,466. In this case, the significance of increasing the plant size was shown by total net revenues increasing from an annual net loss of \$36,196 to positive net revenue of \$320,034.

^{8/} American Institute of Food Distribution, Inc. The Food Institute's Report on Food Markets. Washington, D.C., 1968.

MODEL PLANTS PACKAGING FROZEN GREEN BEANS

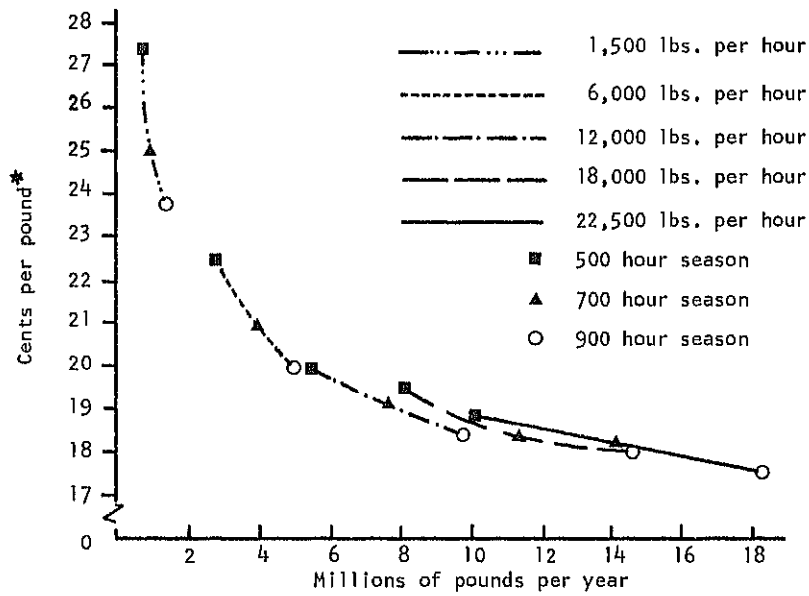


Figure 4

MODEL PLANTS PACKAGING FROZEN LIMA BEANS

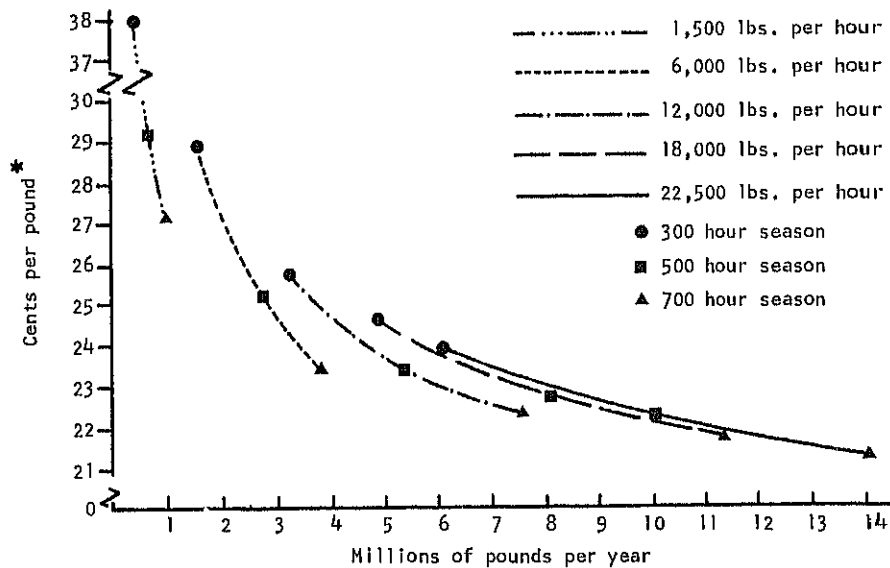
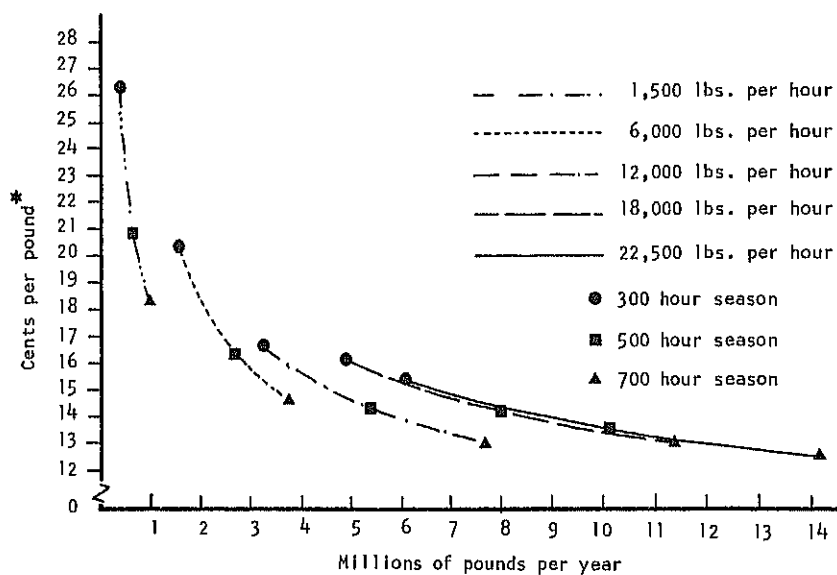


Figure 5

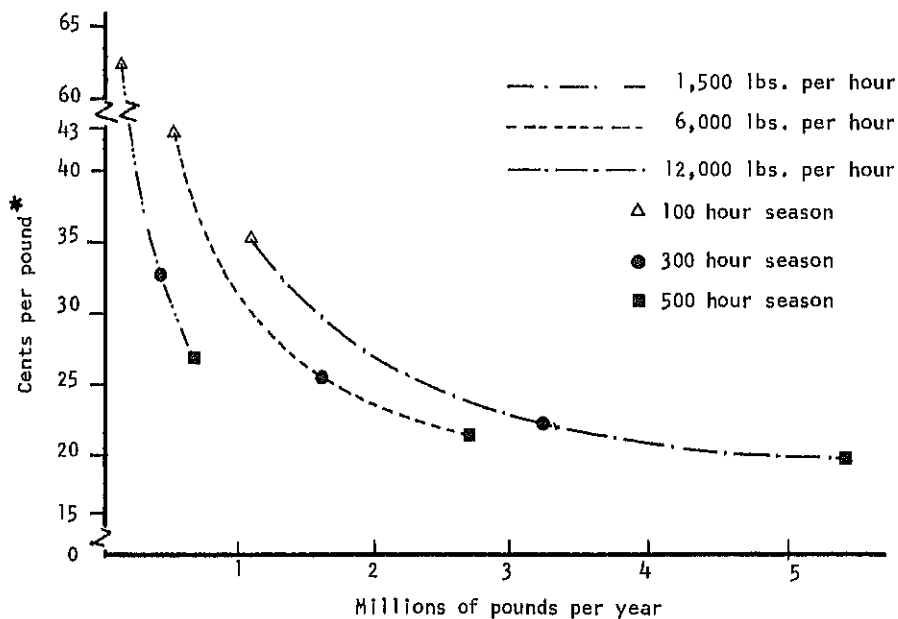
MODEL PLANTS PACKAGING FROZEN LEAFY GREENS



*AVERAGE TOTAL OPERATING COST WITH FINISHED PRODUCT PRICE
15.6 CENTS PER POUND AND RAW PRODUCT PRICE \$40 PER TON.

Figure 6

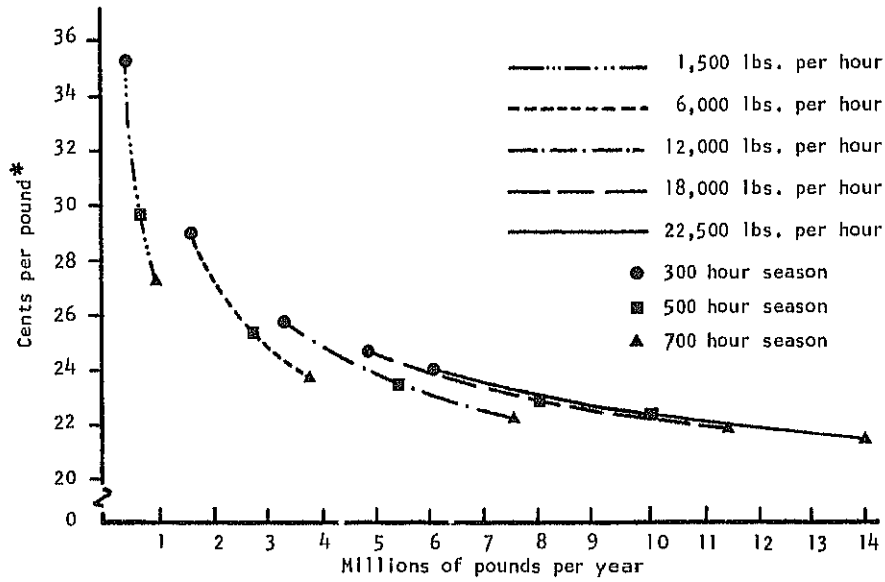
MODEL PLANTS PACKAGING FROZEN OKRA



*AVERAGE TOTAL OPERATING COST WITH FINISHED PRODUCT PRICE
27.6 CENTS PER POUND AND RAW PRODUCT PRICE \$80 PER TON.

Figure 7

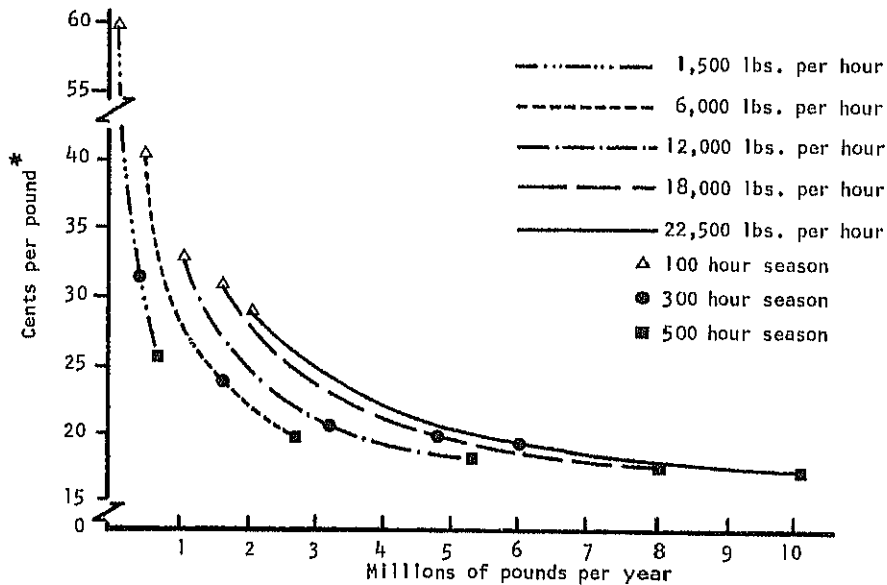
MODEL PLANTS PACKAGING FROZEN SOUTHERN PEAS



* AVERAGE TOTAL OPERATING COST WITH FINISHED PRODUCT PRICE
26 CENTS PER POUND AND RAW PRODUCT PRICE \$200 PER TON.

Figure 8

MODEL PLANTS PACKAGING FROZEN SQUASH



* AVERAGE TOTAL OPERATING COST WITH FINISHED PRODUCT PRICE
18.3 CENTS PER POUND AND RAW PRODUCT PRICE \$100 PER TON.

Figure 9

Table 14.--Prices received for frozen vegetables by container size, three price levels as used in this analysis, model plants freezing specified vegetables

| Vegetable and container | Price level 1 | Price level 2 | Price level 3 |
|-------------------------------|---------------------|---------------------|---------------------|
| -----Cents per pound----- | | | |
| Green beans: | | | |
| 10-oz. carton | 20.00 | 22.00 | 24.00 |
| 20-oz. poly bag | 18.00 | 20.00 | 22.00 |
| 2-1/2-lb. carton | 16.00 | 17.00 | 18.00 |
| Weighted average 1/..... | 18.50 | 20.25 | 22.00 |
| Lima beans: | | | |
| 10-oz. carton | 21.00 | 23.00 | 25.00 |
| 20-oz. poly bag | 20.00 | 22.00 | 24.00 |
| 2-1/2-lb. carton | 19.00 | 21.00 | 23.00 |
| Weighted average | 20.25 | 22.25 | 24.25 |
| Leafy greens: | | | |
| 10-oz. carton | 15.00 | 16.00 | 17.00 |
| 2-1/2-lb. carton | 11.00 | 12.00 | 13.00 |
| Weighted average | 13.60 | 14.60 | 15.60 |
| Okra: | | | |
| 10-oz. carton | 25.00 | 27.00 | 29.00 |
| 2-1/2-lb. carton | 21.00 | 23.00 | 25.00 |
| Weighted average | 23.60 | 25.60 | 27.60 |
| Southern peas: | | | |
| 10-oz. carton | 23.00 | 25.00 | 27.00 |
| 20-oz. poly bag | 22.00 | 24.00 | 26.00 |
| 2-1/2-lb. carton | 20.00 | 22.00 | 24.00 |
| Weighted average | 22.00 | 24.00 | 26.00 |
| Squash: | | | |
| 10-oz. carton | 17.00 | 18.00 | 19.00 |
| 2-1/2-lb. carton | 15.00 | 16.00 | 17.00 |
| Weighted average | 16.30 | 17.30 | 18.30 |

1/ Average gross income per pound of finished product weighted by quantity sold in each container type.

The second factor affecting costs in this analysis was length of processing season or processing hours per year. Using green beans again as an example, the effect of increasing season length can be observed in appendix tables 1, 2, and 3. Looking at the 22,500-pound-per-hour plant, total net revenue increased from \$320,034 to \$804,819 when prices were held constant at their highest level for both finished and raw product while season length was increased from 500 to 900 hours.

PROFITABILITY OF INVESTMENT

Before constructing a new freezing plant or investing in an additional processing line, a thorough evaluation of the expected returns to the initial investment is necessary. A significant factor in this decision is the number of years required to repay the investment plus the desired rate of return. In this analysis the planning horizon was set at 10 years with an interest rate of 10 percent.

A modified capitalization method was used to determine the profitability of investment in a single-product freezing plant with expected costs and returns as computed in this analysis. This required estimation of the present value of expected net returns from the plant over the 10-year planning horizon. Basically, it involved five steps:

1. Estimating annual net revenue.
2. Discounting annual net revenue at the market rate of interest for long-term loans.
3. Discounting the salvage value for buildings and equipment at the end of 10 years.
4. Computing the capital value in each time period by summing discounted net revenues over the remaining time periods of the planning horizon and adding to discounted salvage value.
5. Comparing capital value with initial investment.

Net revenue was defined as the total revenue derived from sale of the finished product minus total operating costs. It is the return on the investment. For this analysis, annual net revenue has been assumed constant throughout the 10 years. Determination of the present value of future net returns was accomplished by discounting the expected net revenue at 10 percent for each year.

Salvage value was calculated at the end of 10 years to be 40 percent of the initial investment in processing buildings, 50 percent of freezer storage, and 20 percent of processing equipment. Present value of this salvage value was determined by discounting at 10 percent interest rate for each year.

Capital values for the first year are listed in tables 15-20 for each single-product freezing plant model as specified in this analysis. Only the positive capital values have been listed. If the capital value is greater than

in beans: Capital value for first year of 10-year planning horizon, by
y, season length, finished product price, and raw product price

| | | its per pound of : 20.25 cents per pound of : 22.00 cents per pound of | | | |
|-------------------|-------------|---|----------------------------|-------------|-------------|
| | | hed product : | finished product : | | |
| | | on: \$125 per ton: \$100 per ton: \$125 per ton: \$100 per ton: \$125 per ton | of raw : of raw : of raw : | | |
| length | product : | product : | product : | product : | product : |
| -----Dollars----- | | | | | |
| 1,500 pounds: | | | | | |
| 500 hours | 1/ | 1/ | 1/ | 1/ | 1/ |
| 700 hours | 1/ | 1/ | 1/ | 1/ | 1/ |
| 900 hours | 1/ | 1/ | 1/ | 1/ | 1/ |
| 6,000 pounds: | | | | | |
| 500 hours | 1/ | 1/ | 1/ | 1/ | 1/ |
| 700 hours | 1/ | 1/ | 1/ | 1/ | 1/ |
| 900 hours | 1/ | 1/ | 1/ | 1/ | 1/ |
| 12,000 pounds: | | | | | |
| 500 hours | 329,045 | 861,803 | 334,804 | 1,394,561 | 867,561 |
| 700 hours | 759,824 | 1,505,681 | 767,904 | 2/2,251,539 | 1,513,761 |
| 900 hours | 1,406,875 | 2/2,365,838 | 1,417,253 | 2/3,324,801 | 2/2,376,216 |
| 18,000 pounds: | | | | | |
| 500 hours | 746,355 | 1,545,486 | 755,038 | 2,344,623 | 1,554,175 |
| 700 hours | 1,693,495 | 2/2,812,283 | 1,705,660 | 2/3,931,072 | 2/2,824,449 |
| 900 hours | 2,392,598 | 2/3,831,039 | 2,408,230 | 2/5,269,481 | 2/3,846,671 |
| 22,500 pounds: | | | | | |
| 500 hours | 1,337,997 | 2,336,924 | 1,336,516 | 2/3,335,839 | 2,335,431 |
| 700 hours | 2,236,388 | 2/3,634,878 | 2,251,412 | 2/5,033,367 | 2/3,649,901 |
| 900 hours | 2/3,520,555 | 2/5,318,607 | 2/3,539,990 | 2/7,113,617 | 2/5,335,001 |

1/ Net returns to investment are negative. See appendix tables 1, 2, and 3.

2/ Capital value greater than initial investment in building and equipment. See table 2 for amount of initial investment.

Table 16.--Model plants freezing lima beans: Capital value for first year of a 10-year planning horizon, by hourly finished product capacity, season length, finished product price, and raw product price

| by hourly finished product | | | | | | |
|--|---|-------------|---|-------------|---|-----------|
| | 20.25 cents per pound of | | 22.25 cents per pound of | | 24.25 cents per pound of | |
| Hourly finished : | finished product | | finished product | | finished product | |
| product capacity: \$175 per ton: \$200 per ton: \$175 per ton: \$200 per ton: \$175 per ton: \$200 per ton | of raw : of raw : of raw : of raw : | | of raw : of raw : of raw : of raw : | | of raw : of raw : of raw : of raw : | |
| and season : | product : product : product : product : | | product : product : product : product : | | product : product : product : product : | |
| length : | | | | | | |
| -----Dollars----- | | | | | | |
| 1,500 pounds: | | | | | | |
| 300 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 500 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 700 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 6,000 pounds: | | | | | | |
| 300 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 500 hours | 1/ | 1/ | 1/ | 1/ | 182,587 | 1/ |
| 700 hours | 1/ | 1/ | 1/ | 1/ | 627,806 | 1/ |
| 12,000 pounds: | | | | | | |
| 300 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 500 hours | 1/ | 1/ | 1/ | 1/ | 919,601 | 448,105 |
| 700 hours | 1/ | 1/ | 1/ | 1/ | 213,729 | 1,066,139 |
| 18,000 pounds: | | | | | | |
| 300 hours | 1/ | 1/ | 1/ | 1/ | 493,695 | 1/ |
| 500 hours | 1/ | 1/ | 1/ | 1/ | 1,655,991 | 948,746 |
| 700 hours | 444,348 | 1,722,963 | 732,817 | 2/3,001,579 | 2,011,432 | |
| 22,500 pounds: | | | | | | |
| 300 hours | 1/ | 1/ | 1/ | 1/ | 884,871 | 354,411 |
| 500 hours | 1/ | 1,267,858 | 383,760 | 2/2,409,481 | 1,525,383 | |
| 700 hours | 914,196 | 2/2,512,463 | 1,271,262 | 2/4,110,731 | 2/2,872,989 | |

1/ Net returns to investment were negative. See appendix tables 4, 5, and 6.
2/ Capital value greater than initial investment in building and equipment. See table 2 for amount of initial investment.

Table 17.--Model plants freezing leafy greens: Capital value for first year of a 10-year planning horizon, by hourly finished product capacity, season length, finished product price, and raw product price

| | : 13.60 cents per pound of : | | : 14.60 cents per pound of : | | : 15.60 cents per pound of : | |
|----------------------------------|------------------------------|-----------|------------------------------|-----------|------------------------------|-------------|
| Hourly finished : | finished product : | | finished product : | | finished product : | |
| product capacity: \$30 per ton : | \$40 per ton : | | \$40 per ton : | | \$40 per ton : | |
| and season : | of raw : | of raw : | of raw : | of raw : | of raw : | of raw : |
| length : | product : | product : | product : | product : | product : | product : |
| -----Dollars----- | | | | | | |
| 1,500 pounds: | | | | | | |
| 300 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 500 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 700 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 6,000 pounds: | | | | | | |
| 300 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 500 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 700 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 12,000 pounds: | | | | | | |
| 300 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 500 hours | 185,233 | 471,137 | 489,665 | 273,794 | 794,097 | 578,226 |
| 700 hours | 773,358 | | 1,199,563 | 897,343 | 1,625,768 | 1,323,548 |
| 18,000 pounds: | | | | | | |
| 300 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 500 hours | 412,138 | 842,904 | 868,789 | 544,983 | 1,325,434 | 1,001,628 |
| 700 hours | 1,296,238 | | 1,935,548 | 1,482,215 | 2,574,853 | 2,121,520 |
| 22,500 pounds: | | | | | | |
| 300 hours | 1/ | 1/ | 309,187 | 1/ | 651,679 | 408,821 |
| 500 hours | 924,762 | 519,989 | 1,495,530 | 1,090,758 | 2,066,299 | 1,661,526 |
| 700 hours | 2,070,632 | 1,503,950 | 2,869,763 | 2,303,081 | 2/3,668,906 | 2/3,102,224 |

1/ Net returns to investment were negative. See appendix tables 7, 8, and 9.

2/ Capital value greater than initial investment in building and equipment. See table 2 for amount of initial investment.

Table 18.--Model plants freezing okra: Capital value for first year of a 10-year planning horizon, by hourly finished product capacity, season length, finished product price, and raw product price

| | : 23.60 cents per pound of : | | : 25.60 cents per pound of : | | : 27.60 cents per pound of : | |
|----------------------------------|------------------------------|-----------|------------------------------|-------------|------------------------------|-------------|
| Hourly finished : | finished product : | | finished product : | | finished product : | |
| product capacity: \$60 per ton : | \$80 per ton : | | \$80 per ton : | | \$80 per ton : | |
| and season : | of raw : | of raw : | of raw : | of raw : | of raw : | of raw : |
| length : | product : | product : | product : | product : | product : | product : |
| :-----Dollars-----: | | | | | | |
| 1,500 pounds: | | | | | | |
| 100 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 300 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 500 hours | 1/ | 1/ | 1/ | 1/ | 146,664 | 92,715 |
| 6,000 pounds: | | | | | | |
| 100 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 300 hours | 1/ | 1/ | 1/ | 1/ | 466,247 | 336,720 |
| 500 hours | 729,550 | 513,673 | 1,033,982 | 818,105 | 2/1,341,235 | 2/1,125,358 |
| 12,000 pounds: | | | | | | |
| 100 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 300 hours | 761,720 | 502,671 | 1,127,038 | 867,990 | 1,492,357 | 1,233,309 |
| 500 hours | 2/2,001,922 | 1,570,175 | 2/2,610,787 | 2/2,179,039 | 2/3,219,651 | 2/2,787,904 |

1/ Net returns to investment were negative. See appendix tables 10, 11, and 12.

2/ Capital value greater than initial investment in building and equipment. See table 2 for amount of initial investment.

Table 19.--Model plants freezing southern peas: Capital value for first year of a 10-year planning horizon, by hourly finished product capacity, season length, finished product price, and raw product price

| : 22.00 cents per pound of : 24.00 cents per pound of : 26.00 cents per pound of | | | | | | | | | | | | |
|--|------------------|----|---|------------------|----|-------------|------------------|-------------|-------------|------------------|--|---------|
| Hourly finished : | finished product | | : | finished product | | : | finished product | | : | finished product | | |
| product capacity: \$175 per ton: \$200 per ton: \$175 per ton: \$200 per ton: \$175 per ton: \$200 per ton | of raw : | | : | of raw : | | : | of raw : | | : | of raw : | | |
| and season : | product : | | : | product : | | : | product : | | : | product : | | |
| length : | product : | | : | product : | | : | product : | | : | product : | | |
| -----Dollars----- | | | | | | | | | | | | |
| 1,500 pounds: | | | | | | | | | | | | |
| 300 hours | 1/ | 1/ | | 1/ | 1/ | 1/ | | 1/ | 1/ | 1/ | | 1/ |
| 500 hours | 1/ | 1/ | | 1/ | 1/ | 1/ | | 1/ | 1/ | 1/ | | 1/ |
| 700 hours | 1/ | 1/ | | 1/ | 1/ | 1/ | | 1/ | 1/ | 1/ | | 1/ |
| 6,000 pounds: | | | | | | | | | | | | |
| 300 hours | 1/ | 1/ | | 1/ | 1/ | 1/ | | 1/ | 1/ | 1/ | | 1/ |
| 500 hours | 1/ | 1/ | | 152,578 | 1/ | 457,010 | | 462,602 | 1,484,529 | 1,013,039 | | 221,262 |
| 700 hours | 121,662 | 1/ | | 547,867 | 1/ | 974,072 | | 2/2,583,001 | 2/1,922,910 | 644,023 | | |
| 12,000 pounds: | | | | | | | | | | | | |
| 300 hours | 1/ | 1/ | | 1/ | 1/ | 1/ | | 1/ | 1/ | 1/ | | 1/ |
| 500 hours | 205,355 | 1/ | | 875,665 | 1/ | 404,174 | | 462,602 | 1,484,529 | 1,013,039 | | 221,262 |
| 700 hours | 878,181 | 1/ | | 2/1,730,591 | 1/ | 1,070,499 | | 2/2,583,001 | 2/1,922,910 | 644,023 | | |
| 18,000 pounds: | | | | | | | | | | | | |
| 300 hours | 1/ | 1/ | | 464,225 | 1/ | 1,012,203 | | 1,012,203 | 587,853 | | | |
| 500 hours | 676,874 | 1/ | | 1,590,170 | 1/ | 882,925 | | 2/2,503,467 | 1,796,222 | | | |
| 700 hours | 1,629,327 | 1/ | | 2/2,907,942 | 1/ | 1,917,795 | | 2/4,195,557 | 2/3,196,411 | | | |
| 22,500 pounds: | | | | | | | | | | | | |
| 300 hours | 1/ | 1/ | | 833,937 | 1/ | 303,477 | | 1,518,908 | 988,448 | | | |
| 500 hours | 1,169,981 | 1/ | | 2,311,603 | 1/ | 1,427,505 | | 2/3,453,226 | 2/2,569,128 | | | |
| 700 hours | 2,375,280 | 1/ | | 2/3,973,547 | 1/ | 2/2,735,812 | | 2/5,571,815 | 2/4,334,079 | | | |

1/ Net returns to investment were negative. See appendix tables 13, 14, and 15.

2/ Capital value greater than initial investment in building and equipment. See table 2 for amount of initial investment.

Table 20.--Model plants freezing squash: Capital value for first year of 10-year planning horizon, by hourly finished product capacity, season length, finished product price, and raw product price

| Hourly finished : | | 16.30 cents per pound of finished product : | | 17.30 cents per pound of finished product : | | 18.30 cents per pound of finished product : | |
|----------------------------------|-----------|---|-----------|---|-----------|---|-----------|
| product capacity: \$80 per ton : | | \$100 per ton : | | \$80 per ton : | | \$100 per ton : | |
| and season | of raw : | of raw : | of raw : | of raw : | of raw : | of raw : | of raw : |
| length | product : | product : | product : | product : | product : | product : | product : |
| 1,500 pounds: | | | | | | | |
| 100 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 300 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 500 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 6,000 pounds: | | | | | | | |
| 100 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 300 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 500 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 12,000 pounds: | | | | | | | |
| 100 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 300 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 500 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 18,000 pounds: | | | | | | | |
| 100 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 300 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 500 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 22,500 pounds: | | | | | | | |
| 100 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 300 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 500 hours | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ |
| 705,755 | | | | | | | |
| 1,276,572 | | | | | | | |
| 486,075 | | | | | | | |
| 1,847,378 | | | | | | | |
| 523,200 | | | | | | | |
| 1,056,880 | | | | | | | |

11/ Net returns to investment were negative. See appendix tables 16, 17, and 18.

Note: Capital value was not greater than initial investment in building and equipment for any combination. See Table 2.

the initial investment in year 1, then the project is considered economically feasible or profitable. Profitable, as used in this study, means that the discounted net return over the planning horizon, plus discounted salvage value, is greater than the initial investment or purchase price of an existing plant. Thus, the capital values for years 2 through 10 could easily be derived to determine the feasibility of purchasing an existing plant. The analysis would be the same as for a new plant, but the number of years left to accumulate the net returns would be shortened. These values have not been included.

Green bean model plants of 1,500 and 6,000 pounds per hour capacity were not profitable at any combination of prices (table 15). Investments became profitable when plant size reached 12,000 pounds per hour--operating 700 hours per season with raw product at its lower price (\$100 per ton) and finished product at its higher price. Increasing season length to 900 hours enabled this plant to be profitable at a lower finished product price and also at the higher raw product price of \$125 per ton.

The largest green bean model plant, 22,500 pounds per hour, was profitable at all but the highest price for raw product combined with the lowest price for finished product when operated 900 hours per season. This plant was also profitable at the highest raw product price and lowest finished product price when operated only 500 hours per year.

The model freezing plants for lima beans became profitable when plant size reached 12,000 pounds per hour and season length reached 700 hours, with the highest finished product price and the lower raw product price (table 16). This was also the only combination profitable for the 18,000-pound-per-hour plant. At the lowest finished product price level and higher raw product price, net returns to investment were negative for all plant sizes and season lengths. None of the model plants were profitable when operated only 300 hours, while only the largest plant was profitable at the most favorable combination of prices when the length of season was 500 hours.

Leafy greens plants were profitable for only the largest model plant size in this analysis and with the 700-hour season. At this combination the capital value was greater than initial investment for both high and low raw product prices when finished product price was at its highest level (table 17).

Okra model plants were limited to three sizes: 1,500, 6,000, and 12,000 pounds per hour (table 18). This was due to the exceptionally large amount of labor required during the initial processing stages. Okra holds another distinction in this analysis--it is the only vegetable out of the six to be economically profitable at 6,000 pounds per hour. For 500-hour seasons, the 6,000-pounds-per-hour plant was profitable at the highest finished product price and both raw product prices. At 12,000 pounds per hour and the 500-hour season, all combinations of prices were profitable except one. None of the model plants profitable investments when the operating season was 300 hours or less in

combinations of prices, and even occasionally at the middle season length of 500 hours, they were unprofitable at the lowest finished product prices in all situations.

Squash was the only vegetable of the six considered in this analysis that was not profitable at any combination of plant size and season length (table 20). Capital values were considerably below initial investments, and a large increase in finished product price would be necessary to increase net returns sufficiently to make investment in a single-product plant profitable.

APPENDIX TABLES

Appendix Table 1.--Green beans: Annual net revenue for freezing plants with selected hourly processing capacities and 500 hour seasons a/

| Hourly finished product capacity (pounds) | Item | Raw product cost | | | | | |
|---|-----------------------------|--------------------------------------|------------------|------------------|------------------|------------------|------------------|
| | | \$100/ton | | | \$125/ton | | |
| | | Finished product price (cents/pound) | | | | | |
| | | 18.50 | 20.25 | 22.00 | 18.50 | 20.25 | 22.00 |
| | | -----dollars----- | | | | | |
| 1,500 | Total revenue | 124,875 | 136,688 | 148,500 | 124,875 | 136,688 | 148,500 |
| | Operating cost: | | | | | | |
| | Annual | 64,488 | 65,463 | 66,436 | 65,282 | 66,257 | 67,230 |
| | Hourly | <u>107,541</u> | <u>107,541</u> | <u>107,541</u> | <u>117,466</u> | <u>117,466</u> | <u>117,466</u> |
| | Total <u>b/</u> | <u>172,029</u> | <u>173,004</u> | <u>173,977</u> | <u>182,748</u> | <u>183,723</u> | <u>184,696</u> |
| | Total net revenue <u>c/</u> | -47,154 | -36,316 | -25,477 | -57,873 | -47,035 | -36,196 |
| 6,000 | Total revenue | 499,500 | 546,750 | 594,000 | 499,500 | 546,750 | 594,000 |
| | Operating cost: | | | | | | |
| | Annual | 211,136 | 215,034 | 218,932 | 214,313 | 218,211 | 222,109 |
| | Hourly | <u>342,995</u> | <u>342,995</u> | <u>342,995</u> | <u>382,708</u> | <u>382,708</u> | <u>382,708</u> |
| | Total <u>b/</u> | <u>554,131</u> | <u>558,029</u> | <u>561,927</u> | <u>597,021</u> | <u>600,919</u> | <u>604,817</u> |
| | Total net revenue <u>c/</u> | -54,631 | -11,279 | 32,073 | -97,521 | -54,169 | -10,817 |
| 12,000 | Total revenue | 999,000 | 1,093,500 | 1,188,000 | 999,000 | 1,093,500 | 1,188,000 |
| | Operating cost: | | | | | | |
| | Annual | 347,301 | 355,097 | 362,893 | 353,655 | 361,451 | 369,247 |
| | Hourly | <u>628,419</u> | <u>628,419</u> | <u>628,419</u> | <u>707,832</u> | <u>707,832</u> | <u>707,832</u> |
| | Total <u>b/</u> | <u>975,720</u> | <u>983,516</u> | <u>991,312</u> | <u>1,061,487</u> | <u>1,069,283</u> | <u>1,077,079</u> |
| | Total net revenue <u>c/</u> | 23,280 | 109,984 | 196,688 | -62,487 | 24,217 | 110,921 |
| 18,000 | Total revenue | 1,498,500 | 1,640,250 | 1,782,000 | 1,498,500 | 1,640,250 | 1,782,000 |
| | Operating cost: | | | | | | |
| | Annual | 477,295 | 488,990 | 500,684 | 486,824 | 498,519 | 510,213 |
| | Hourly | <u>943,904</u> | <u>943,904</u> | <u>943,904</u> | <u>1,063,017</u> | <u>1,063,017</u> | <u>1,063,017</u> |
| | Total <u>b/</u> | <u>1,421,199</u> | <u>1,432,894</u> | <u>1,444,588</u> | <u>1,549,841</u> | <u>1,561,536</u> | <u>1,573,230</u> |
| | Total net revenue <u>c/</u> | 77,301 | 207,356 | 337,412 | -51,341 | 78,714 | 208,770 |
| 22,500 | Total revenue | 1,873,125 | 2,050,313 | 2,227,500 | 1,873,125 | 2,050,313 | 2,227,500 |
| | Operating cost: | | | | | | |
| | Annual | 562,990 | 577,607 | 592,225 | 576,902 | 591,519 | 606,137 |
| | Hourly | <u>1,152,429</u> | <u>1,152,429</u> | <u>1,152,429</u> | <u>1,301,329</u> | <u>1,301,329</u> | <u>1,301,329</u> |
| | Total <u>b/</u> | <u>1,715,419</u> | <u>1,730,036</u> | <u>1,744,654</u> | <u>1,878,231</u> | <u>1,892,848</u> | <u>1,907,466</u> |
| | Total net revenue <u>c/</u> | 157,706 | 320,277 | 482,846 | -5,106 | 157,465 | 320,034 |

a/ Operating efficiency of 90 percent.

b/ Excluding depreciation and interest on initial investment and income taxes.

c/ Returns to building, equipment, and land.

Appendix Table 2.--Green beans: Annual net revenue for freezing plants with selected hourly processing capacities and 700 hour seasons a/

| Hourly finished product capacity (pounds) | Item | Raw product cost | | | | | |
|---|-----------------------------|--------------------------------------|------------------|------------------|------------------|------------------|------------------|
| | | \$100/ton | | | \$125/ton | | |
| | | Finished product price (cents/pound) | | | | | |
| | | 18.50 | 20.25 | 22.00 | 18.50 | 20.25 | 22.00 |
| -----dollars----- | | | | | | | |
| 1,500 | Total revenue | 174,825 | 191,362 | 207,900 | 174,825 | 191,362 | 207,900 |
| | Operating cost: | | | | | | |
| | Annual | 71,591 | 72,956 | 74,319 | 72,703 | 74,068 | 75,431 |
| | Hourly | <u>148,221</u> | <u>148,221</u> | <u>148,221</u> | <u>162,116</u> | <u>162,116</u> | <u>162,116</u> |
| | Total <u>b/</u> | <u>219,812</u> | <u>221,177</u> | <u>222,540</u> | <u>234,819</u> | <u>236,184</u> | <u>237,547</u> |
| | Total net revenue <u>c/</u> | -44,987 | -29,815 | -14,640 | -59,994 | -44,822 | -29,647 |
| 6,000 | Total revenue | 699,300 | 765,450 | 831,600 | 699,300 | 765,450 | 831,600 |
| | Operating cost: | | | | | | |
| | Annual | 239,549 | 245,007 | 250,464 | 243,988 | 249,446 | 254,903 |
| | Hourly | <u>483,810</u> | <u>483,810</u> | <u>483,810</u> | <u>539,295</u> | <u>539,295</u> | <u>539,295</u> |
| | Total <u>b/</u> | <u>723,359</u> | <u>728,817</u> | <u>734,274</u> | <u>783,283</u> | <u>788,741</u> | <u>794,198</u> |
| | Total net revenue <u>c/</u> | -24,059 | 36,633 | 97,326 | -83,983 | -23,291 | 37,402 |
| 12,000 | Total revenue | 1,398,600 | 1,530,900 | 1,663,200 | 1,398,600 | 1,530,900 | 1,663,200 |
| | Operating cost: | | | | | | |
| | Annual | 414,838 | 425,753 | 436,668 | 423,732 | 434,647 | 445,562 |
| | Hourly | <u>899,521</u> | <u>899,521</u> | <u>899,521</u> | <u>1,010,697</u> | <u>1,010,697</u> | <u>1,010,697</u> |
| | Total <u>b/</u> | <u>1,314,359</u> | <u>1,325,274</u> | <u>1,336,189</u> | <u>1,434,429</u> | <u>1,445,344</u> | <u>1,456,259</u> |
| | Total net revenue <u>c/</u> | 84,241 | 205,626 | 327,011 | -35,829 | 85,556 | 206,941 |
| 18,000 | Total revenue | 2,097,900 | 2,296,350 | 2,494,800 | 2,097,900 | 2,296,350 | 2,494,800 |
| | Operating cost: | | | | | | |
| | Annual | 557,747 | 574,119 | 590,491 | 571,087 | 587,459 | 603,831 |
| | Hourly | <u>1,309,746</u> | <u>1,309,746</u> | <u>1,309,746</u> | <u>1,476,504</u> | <u>1,476,504</u> | <u>1,476,504</u> |
| | Total <u>b/</u> | <u>1,867,493</u> | <u>1,883,865</u> | <u>1,900,237</u> | <u>2,047,591</u> | <u>2,063,963</u> | <u>2,080,335</u> |
| | Total net revenue <u>c/</u> | 230,407 | 412,485 | 594,563 | 50,309 | 232,387 | 414,465 |
| 22,500 | Total revenue | 2,622,375 | 2,870,438 | 3,118,500 | 2,622,375 | 2,870,438 | 3,118,500 |
| | Operating cost: | | | | | | |
| | Annual | 673,800 | 694,265 | 714,729 | 690,493 | 710,958 | 731,422 |
| | Hourly | <u>1,647,778</u> | <u>1,647,778</u> | <u>1,647,778</u> | <u>1,856,238</u> | <u>1,856,238</u> | <u>1,856,238</u> |
| | Total <u>b/</u> | <u>2,321,578</u> | <u>2,342,043</u> | <u>2,362,507</u> | <u>2,546,731</u> | <u>2,567,196</u> | <u>2,587,660</u> |
| | Total net revenue <u>c/</u> | 300,797 | 528,395 | 755,993 | 75,644 | 303,242 | 530,840 |

a/ Operating efficiency of 90 percent.

b/ Excluding depreciation and interest on initial investment and income taxes.

c/ Returns to building, equipment, and land.

Appendix Table 3.--Green beans: Annual net revenue for freezing plants with selected hourly processing capacities and 900 hour seasons a/

| Hourly finished product capacity (pounds) | Item | Raw product cost | | | | | |
|---|-----------------------------|--------------------------------------|------------------|------------------|------------------|------------------|------------------|
| | | \$100/ton | | | \$125/ton | | |
| | | Finished product price (cents/pound) | | | | | |
| | | 18.50 | 20.25 | 22.00 | 18.50 | 20.25 | 22.00 |
| | | -----dollars----- | | | | | |
| 1,500 | Total revenue | 224,775 | 246,038 | 267,300 | 224,775 | 246,038 | 267,300 |
| | Operating cost: | | | | | | |
| | Annual | 78,782 | 80,536 | 82,289 | 80,212 | 81,966 | 83,719 |
| | Hourly | <u>187,844</u> | <u>187,844</u> | <u>187,844</u> | <u>205,619</u> | <u>205,619</u> | <u>205,619</u> |
| | Total <u>b/</u> | <u>266,626</u> | <u>268,380</u> | <u>270,133</u> | <u>285,831</u> | <u>287,585</u> | <u>289,338</u> |
| | Total net revenue <u>c/</u> | -41,851 | -22,342 | -2,833 | -61,056 | -41,547 | -22,038 |
| 6,000 | Total revenue | 899,100 | 984,150 | 1,069,200 | 899,100 | 984,150 | 1,069,200 |
| | Operating cost: | | | | | | |
| | Annual | 270,632 | 277,648 | 283,465 | 276,351 | 283,367 | 289,184 |
| | Hourly | <u>619,220</u> | <u>619,220</u> | <u>619,220</u> | <u>691,703</u> | <u>691,703</u> | <u>691,703</u> |
| | Total <u>b/</u> | <u>889,852</u> | <u>896,868</u> | <u>902,685</u> | <u>968,054</u> | <u>975,070</u> | <u>980,887</u> |
| | Total net revenue <u>c/</u> | 9,248 | 87,282 | 166,515 | -68,954 | 9,080 | 88,313 |
| 12,000 | Total revenue | 1,798,200 | 1,968,300 | 2,138,400 | 1,798,200 | 1,968,300 | 2,138,400 |
| | Operating cost: | | | | | | |
| | Annual | 466,591 | 480,624 | 494,657 | 478,026 | 492,059 | 506,092 |
| | Hourly | <u>1,142,151</u> | <u>1,142,151</u> | <u>1,142,151</u> | <u>1,285,094</u> | <u>1,285,094</u> | <u>1,285,094</u> |
| | Total <u>b/</u> | <u>1,608,742</u> | <u>1,622,775</u> | <u>1,636,808</u> | <u>1,763,120</u> | <u>1,777,153</u> | <u>1,791,186</u> |
| | Total net revenue <u>c/</u> | 189,458 | 345,525 | 501,592 | 35,080 | 191,147 | 347,214 |
| 18,000 | Total revenue | 2,697,300 | 2,952,450 | 3,207,600 | 2,697,300 | 2,952,450 | 3,207,600 |
| | Operating cost: | | | | | | |
| | Annual | 656,877 | 677,927 | 698,977 | 674,030 | 695,080 | 716,130 |
| | Hourly | <u>1,710,063</u> | <u>1,710,063</u> | <u>1,710,063</u> | <u>1,924,466</u> | <u>1,924,466</u> | <u>1,924,466</u> |
| | Total <u>b/</u> | <u>2,366,940</u> | <u>2,387,990</u> | <u>2,409,040</u> | <u>2,598,496</u> | <u>2,619,546</u> | <u>2,640,596</u> |
| | Total net revenue <u>c/</u> | 330,360 | 564,460 | 798,560 | 98,804 | 332,904 | 567,004 |
| 22,500 | Total revenue | 3,371,625 | 3,690,562 | 4,008,960 | 3,371,625 | 3,690,562 | 4,008,960 |
| | Operating cost: | | | | | | |
| | Annual | 770,189 | 796,501 | 822,769 | 791,631 | 817,943 | 844,211 |
| | Hourly | <u>2,091,910</u> | <u>2,091,910</u> | <u>2,091,910</u> | <u>2,359,930</u> | <u>2,359,930</u> | <u>2,359,930</u> |
| | Total <u>b/</u> | <u>2,862,099</u> | <u>2,888,411</u> | <u>2,914,679</u> | <u>3,151,561</u> | <u>3,177,873</u> | <u>3,204,141</u> |
| | Total net revenue <u>c/</u> | 509,526 | 802,151 | 1,094,281 | 220,064 | 512,689 | 804,819 |

a/ Operating efficiency of 90 percent.

b/ Excluding depreciation and interest on initial investment and income taxes.

c/ Returns to building, equipment, and land.

Appendix Table 4.--Lima beans: Annual net revenue for freezing plants with selected hourly processing capacities and 300 hour seasons a/

| Hourly finished product capacity capacity (pounds) | Item | Raw product cost | | | | | |
|---|-----------------------------|--------------------------------------|------------------|------------------|------------------|------------------|------------------|
| | | \$175/ton | | | \$200/ton | | |
| | | Finished product price (cents/pound) | | | | | |
| | | 20.25 | 22.25 | 24.25 | 20.25 | 22.25 | 24.25 |
| -----dollars----- | | | | | | | |
| 1,500 | Total revenue | 82,013 | 90,113 | 98,213 | 82,013 | 90,113 | 98,213 |
| | Operating cost: | | | | | | |
| | Annual | 58,321 | 58,989 | 59,657 | 58,747 | 59,415 | 60,083 |
| | Hourly | <u>88,319</u> | <u>88,319</u> | <u>88,319</u> | <u>93,651</u> | <u>93,651</u> | <u>93,651</u> |
| | Total <u>b/</u> | <u>146,640</u> | <u>147,308</u> | <u>147,976</u> | <u>152,398</u> | <u>153,066</u> | <u>153,734</u> |
| | Total net revenue <u>c/</u> | -64,627 | -57,195 | -49,763 | -70,385 | -62,953 | -55,521 |
| 6,000 | Total revenue | 328,050 | 360,450 | 392,850 | 328,050 | 360,450 | 392,850 |
| | Operating cost: | | | | | | |
| | Annual | 182,676 | 185,349 | 188,022 | 184,381 | 187,054 | 189,727 |
| | Hourly | <u>258,223</u> | <u>258,223</u> | <u>258,223</u> | <u>279,538</u> | <u>279,538</u> | <u>279,538</u> |
| | Total <u>b/</u> | <u>440,899</u> | <u>443,572</u> | <u>446,245</u> | <u>463,919</u> | <u>466,592</u> | <u>469,265</u> |
| | Total net revenue <u>c/</u> | -112,849 | -83,122 | -53,395 | -135,869 | -106,142 | -76,415 |
| 12,000 | Total revenue | 656,100 | 720,900 | 785,700 | 656,100 | 720,900 | 785,700 |
| | Operating cost: | | | | | | |
| | Annual | 292,064 | 297,410 | 302,761 | 295,474 | 300,820 | 306,171 |
| | Hourly | <u>468,159</u> | <u>468,159</u> | <u>468,159</u> | <u>528,789</u> | <u>528,789</u> | <u>528,789</u> |
| | Total <u>b/</u> | <u>760,223</u> | <u>765,569</u> | <u>770,920</u> | <u>824,263</u> | <u>829,609</u> | <u>834,960</u> |
| | Total net revenue <u>c/</u> | -104,123 | -44,669 | 14,780 | -168,163 | -108,709 | -49,260 |
| 18,000 | Total revenue | 984,150 | 1,081,350 | 1,178,550 | 984,150 | 1,081,350 | 1,178,550 |
| | Operating cost: | | | | | | |
| | Annual | 388,662 | 396,681 | 404,700 | 393,778 | 401,797 | 409,816 |
| | Hourly | <u>722,580</u> | <u>722,580</u> | <u>722,580</u> | <u>786,525</u> | <u>786,525</u> | <u>786,525</u> |
| | Total <u>b/</u> | <u>1,111,242</u> | <u>1,119,261</u> | <u>1,127,280</u> | <u>1,180,303</u> | <u>1,188,322</u> | <u>1,196,341</u> |
| | Total net revenue <u>c/</u> | -127,092 | -37,911 | 51,270 | -196,153 | -106,972 | -17,791 |
| 22,500 | Total revenue | 1,230,188 | 1,351,688 | 1,473,188 | 1,230,188 | 1,351,688 | 1,473,188 |
| | Operating cost: | | | | | | |
| | Annual | 450,038 | 460,062 | 470,086 | 456,433 | 466,457 | 476,481 |
| | Hourly | <u>892,341</u> | <u>892,341</u> | <u>892,341</u> | <u>972,276</u> | <u>972,276</u> | <u>972,276</u> |
| | Total <u>b/</u> | <u>1,342,379</u> | <u>1,352,403</u> | <u>1,362,427</u> | <u>1,428,709</u> | <u>1,438,733</u> | <u>1,448,757</u> |
| | Total net revenue <u>c/</u> | -112,191 | -715 | 110,761 | -198,521 | -87,045 | 24,431 |

a/ Operating efficiency of 90 percent.

b/ Excluding depreciation and interest on initial investment and income taxes.

c/ Returns to building, equipment, and land.

Appendix Table 5.--Lima beans: Annual net revenue for freezing plants with selected hourly processing capacities and 500 hour seasons a/

| Hourly finished product capacity (pounds) | Item | Raw product cost | | | | | |
|---|-----------------------------|--------------------------------------|------------------|------------------|------------------|------------------|------------------|
| | | \$175/ton | | | \$200/ton | | |
| | | Finished product price (cents/pound) | | | | | |
| | | 20.25 | 22.25 | 24.25 | 20.25 | 22.25 | 24.25 |
| -----dollars----- | | | | | | | |
| 1,500 | Total revenue | 136,688 | 150,188 | 163,688 | 136,688 | 150,188 | 163,688 |
| | Operating cost: | | | | | | |
| | Annual | 65,386 | 66,499 | 67,613 | 66,098 | 67,211 | 68,325 |
| | Hourly | <u>120,057</u> | <u>120,057</u> | <u>120,057</u> | <u>128,944</u> | <u>128,944</u> | <u>128,944</u> |
| | Total <u>b/</u> | <u>185,443</u> | <u>186,556</u> | <u>187,670</u> | <u>195,042</u> | <u>196,155</u> | <u>197,269</u> |
| | Total net revenue <u>c/</u> | -48,755 | -36,368 | -23,982 | -58,354 | -45,967 | -33,581 |
| 6,000 | Total revenue | 546,750 | 600,750 | 654,750 | 546,750 | 600,750 | 654,750 |
| | Operating cost: | | | | | | |
| | Annual | 213,613 | 218,128 | 222,583 | 216,455 | 220,970 | 225,425 |
| | Hourly | <u>419,362</u> | <u>419,362</u> | <u>419,362</u> | <u>454,887</u> | <u>454,887</u> | <u>454,887</u> |
| | Total <u>b/</u> | <u>632,975</u> | <u>637,490</u> | <u>641,945</u> | <u>671,342</u> | <u>675,857</u> | <u>680,312</u> |
| | Total net revenue <u>c/</u> | -86,225 | -36,740 | 12,805 | -124,592 | -75,107 | -25,562 |
| 12,000 | Total revenue | 1,093,500 | 1,201,500 | 1,309,500 | 1,093,500 | 1,201,500 | 1,309,500 |
| | Operating cost: | | | | | | |
| | Annual | 359,639 | 368,549 | 377,459 | 365,323 | 374,233 | 383,143 |
| | Hourly | <u>808,691</u> | <u>808,691</u> | <u>808,691</u> | <u>879,741</u> | <u>879,741</u> | <u>879,741</u> |
| | Total <u>b/</u> | <u>1,168,330</u> | <u>1,177,240</u> | <u>1,186,150</u> | <u>1,245,064</u> | <u>1,253,974</u> | <u>1,262,884</u> |
| | Total net revenue <u>c/</u> | -74,830 | 24,260 | 123,350 | -151,564 | -52,474 | 46,616 |
| 18,000 | Total revenue | 1,640,250 | 1,802,250 | 1,964,250 | 1,640,250 | 1,802,250 | 1,964,250 |
| | Operating cost: | | | | | | |
| | Annual | 494,632 | 507,997 | 521,362 | 503,158 | 516,523 | 529,888 |
| | Hourly | <u>1,211,244</u> | <u>1,211,244</u> | <u>1,211,244</u> | <u>1,317,819</u> | <u>1,317,819</u> | <u>1,317,819</u> |
| | Total <u>b/</u> | <u>1,705,876</u> | <u>1,719,241</u> | <u>1,732,606</u> | <u>1,820,977</u> | <u>1,834,342</u> | <u>1,847,707</u> |
| | Total net revenue <u>c/</u> | -65,626 | 83,009 | 231,644 | -180,727 | -32,092 | 116,543 |
| 22,500 | Total revenue | 2,050,313 | 2,252,813 | 2,455,313 | 2,050,313 | 2,252,813 | 2,455,313 |
| | Operating cost: | | | | | | |
| | Annual | 577,666 | 594,372 | 611,078 | 588,324 | 605,030 | 621,736 |
| | Hourly | <u>1,493,816</u> | <u>1,493,816</u> | <u>1,493,816</u> | <u>1,627,041</u> | <u>1,627,041</u> | <u>1,627,041</u> |
| | Total <u>b/</u> | <u>2,071,482</u> | <u>2,088,188</u> | <u>2,104,894</u> | <u>2,215,365</u> | <u>2,232,071</u> | <u>2,248,777</u> |
| | Total net revenue <u>c/</u> | -21,169 | 164,625 | 350,419 | -165,052 | 20,742 | 206,536 |

a/ Operating efficiency of 90 percent.

b/ Excluding depreciation and interest on initial investment and income taxes.

c/ Returns to building, equipment, and land.

Appendix Table 6.--Lima beans: Annual net revenue for freezing plants with selected hourly processing capacities and 700 hour seasons a/

| Hourly finished product capacity (pounds) | Item | Raw product cost | | | | | |
|---|-----------------------------|--------------------------------------|------------------|------------------|------------------|------------------|------------------|
| | | \$175/ton | | | \$200/ton | | |
| | | Finished product price (cents/pound) | | | | | |
| | | 20.25 | 22.25 | 24.25 | 20.25 | 22.25 | 24.25 |
| -----dollars----- | | | | | | | |
| 1,500 | Total revenue | 191,363 | 210,263 | 229,163 | 191,363 | 210,263 | 229,163 |
| | Operating cost: | | | | | | |
| | Annual | 73,626 | 75,186 | 76,745 | 74,621 | 76,181 | 77,740 |
| | Hourly | <u>166,556</u> | <u>166,556</u> | <u>166,556</u> | <u>178,998</u> | <u>178,998</u> | <u>178,998</u> |
| | Total <u>b/</u> | <u>240,182</u> | <u>241,742</u> | <u>243,301</u> | <u>253,619</u> | <u>255,179</u> | <u>256,738</u> |
| | Total net revenue <u>c/</u> | -48,819 | -31,479 | -14,138 | -62,256 | -44,916 | -27,575 |
| 6,000 | Total revenue | 765,450 | 841,050 | 916,650 | 765,450 | 841,050 | 916,650 |
| | Operating cost: | | | | | | |
| | Annual | 244,191 | 250,428 | 256,665 | 248,170 | 254,407 | 260,644 |
| | Hourly | <u>574,738</u> | <u>574,738</u> | <u>574,738</u> | <u>624,473</u> | <u>624,473</u> | <u>624,473</u> |
| | Total <u>b/</u> | <u>818,929</u> | <u>825,166</u> | <u>831,403</u> | <u>872,643</u> | <u>878,880</u> | <u>885,117</u> |
| | Total net revenue <u>c/</u> | -53,479 | 15,884 | 85,247 | -107,193 | -37,830 | 31,533 |
| 12,000 | Total revenue | 1,530,900 | 1,682,100 | 1,833,300 | 1,530,900 | 1,682,100 | 1,833,300 |
| | Operating cost: | | | | | | |
| | Annual | 421,912 | 434,386 | 446,860 | 429,870 | 442,344 | 454,818 |
| | Hourly | <u>1,131,932</u> | <u>1,131,932</u> | <u>1,131,932</u> | <u>1,231,402</u> | <u>1,231,402</u> | <u>1,231,402</u> |
| | Total <u>b/</u> | <u>1,553,844</u> | <u>1,566,318</u> | <u>1,578,792</u> | <u>1,661,272</u> | <u>1,673,746</u> | <u>1,686,220</u> |
| | Total net revenue <u>c/</u> | -22,944 | 115,782 | 254,508 | -130,372 | 8,354 | 147,080 |
| 18,000 | Total revenue | 2,296,350 | 2,523,150 | 2,749,950 | 2,296,350 | 2,523,150 | 2,749,950 |
| | Operating cost: | | | | | | |
| | Annual | 586,407 | 605,118 | 623,829 | 598,344 | 617,055 | 635,766 |
| | Hourly | <u>1,675,666</u> | <u>1,675,666</u> | <u>1,675,666</u> | <u>1,824,871</u> | <u>1,824,871</u> | <u>1,824,871</u> |
| | Total <u>b/</u> | <u>2,262,073</u> | <u>2,280,784</u> | <u>2,299,495</u> | <u>2,423,215</u> | <u>2,441,926</u> | <u>2,460,637</u> |
| | Total net revenue <u>c/</u> | 34,277 | 242,366 | 450,455 | -126,865 | 81,224 | 289,313 |
| 22,500 | Total revenue | 2,870,438 | 3,153,938 | 3,437,438 | 2,870,438 | 3,153,938 | 3,437,438 |
| | Operating cost: | | | | | | |
| | Annual | 692,027 | 715,416 | 738,805 | 706,949 | 730,338 | 753,727 |
| | Hourly | <u>2,071,343</u> | <u>2,071,343</u> | <u>2,071,343</u> | <u>2,257,858</u> | <u>2,257,858</u> | <u>2,257,858</u> |
| | Total <u>b/</u> | <u>2,763,370</u> | <u>2,786,759</u> | <u>2,810,148</u> | <u>2,964,807</u> | <u>2,988,196</u> | <u>3,011,585</u> |
| | Total net revenue <u>c/</u> | 107,068 | 367,179 | 627,290 | -94,369 | 165,742 | 425,853 |

a/ Operating efficiency of 90 percent.

b/ Excluding depreciation and interest on initial investment and income taxes.

c/ Returns to building, equipment, and land.

Appendix Table 7 .--Leafy greens: Annual net revenue for freezing plants with selected hourly processing capacities and 300 hour seasons a/

| Hourly finished product capacity (pounds) | Item | Raw product cost | | | | | |
|---|-----------------------------|--------------------------------------|----------------|----------------|----------------|----------------|----------------|
| | | \$30/ton | | | \$40/ton | | |
| | | Finished product price (cents/pound) | | | | | |
| | | 13.6 | 14.6 | 15.6 | 13.6 | 14.6 | 15.6 |
| -----dollars----- | | | | | | | |
| 1,500 | Total revenue | 55,081 | 59,130 | 63,181 | 55,081 | 59,130 | 63,181 |
| | Operating cost: | | | | | | |
| | Annual | 50,138 | 50,472 | 50,806 | 50,333 | 50,667 | 51,001 |
| | Hourly | <u>53,107</u> | <u>53,107</u> | <u>53,107</u> | <u>55,546</u> | <u>55,546</u> | <u>55,546</u> |
| | Total <u>b/</u> | <u>103,245</u> | <u>103,579</u> | <u>103,913</u> | <u>105,879</u> | <u>106,213</u> | <u>106,547</u> |
| | Total net revenue <u>c/</u> | -48,164 | -44,449 | -40,732 | -50,798 | -47,083 | -43,366 |
| 6,000 | Total revenue | 220,080 | 236,520 | 252,720 | 220,080 | 236,520 | 252,720 |
| | Operating cost: | | | | | | |
| | Annual | 169,252 | 170,607 | 171,944 | 170,033 | 171,388 | 172,725 |
| | Hourly | <u>144,962</u> | <u>144,962</u> | <u>144,962</u> | <u>154,721</u> | <u>154,721</u> | <u>154,721</u> |
| | Total <u>b/</u> | <u>314,214</u> | <u>315,569</u> | <u>316,906</u> | <u>324,754</u> | <u>326,109</u> | <u>327,446</u> |
| | Total net revenue <u>c/</u> | -94,134 | -79,049 | -64,186 | -104,674 | -89,589 | -74,726 |
| 12,000 | Total revenue | 440,640 | 473,040 | 505,440 | 440,640 | 473,040 | 505,440 |
| | Operating cost: | | | | | | |
| | Annual | 261,824 | 264,497 | 267,170 | 263,385 | 266,058 | 268,731 |
| | Hourly | <u>257,271</u> | <u>257,271</u> | <u>257,271</u> | <u>267,789</u> | <u>267,789</u> | <u>267,789</u> |
| | Total <u>b/</u> | <u>519,095</u> | <u>521,768</u> | <u>524,441</u> | <u>531,174</u> | <u>533,847</u> | <u>536,520</u> |
| | Total net revenue <u>c/</u> | -78,455 | -48,728 | -19,001 | -90,534 | -60,807 | -31,080 |
| 18,000 | Total revenue | 660,960 | 709,560 | 758,160 | 660,960 | 709,560 | 758,160 |
| | Operating cost: | | | | | | |
| | Annual | 359,766 | 363,776 | 367,785 | 362,108 | 366,118 | 370,127 |
| | Hourly | <u>386,114</u> | <u>386,114</u> | <u>386,114</u> | <u>415,391</u> | <u>415,391</u> | <u>415,391</u> |
| | Total <u>b/</u> | <u>745,880</u> | <u>749,890</u> | <u>753,899</u> | <u>777,499</u> | <u>781,509</u> | <u>785,518</u> |
| | Total net revenue <u>c/</u> | -84,920 | -40,330 | 4,261 | -116,539 | -71,949 | -27,358 |
| 22,500 | Total revenue | 826,201 | 886,950 | 947,701 | 826,201 | 886,950 | 947,701 |
| | Operating cost: | | | | | | |
| | Annual | 406,906 | 411,917 | 416,929 | 409,833 | 414,844 | 419,856 |
| | Hourly | <u>467,346</u> | <u>467,346</u> | <u>467,346</u> | <u>503,943</u> | <u>503,943</u> | <u>503,943</u> |
| | Total <u>b/</u> | <u>874,252</u> | <u>879,263</u> | <u>884,275</u> | <u>913,776</u> | <u>918,787</u> | <u>923,799</u> |
| | Total net revenue <u>c/</u> | -48,051 | 7,687 | 63,426 | -87,575 | -31,837 | 23,902 |

a/ Operating efficiency of 90 percent.

b/ Excluding depreciation and interest on initial investment and income taxes.

c/ Returns to building, equipment, and land.

Appendix Table 8.--Leafy greens: Annual net revenue for freezing plants with selected hourly processing capacities and 500 hour seasons a/

| Hourly finished product capacity (pounds) | Item | Raw product cost | | | | | |
|---|-----------------------------|--------------------------------------|------------------|------------------|------------------|------------------|------------------|
| | | \$30/ton | | | \$40/ton | | |
| | | Finished product price (cents/pound) | | | | | |
| | | 13.6 | 14.6 | 15.6 | 13.6 | 14.6 | 15.6 |
| | | -----dollars----- | | | | | |
| 1,500 | Total revenue | 91,801 | 98,550 | 105,301 | 91,801 | 98,550 | 105,301 |
| | Operating cost: | | | | | | |
| | Annual | 55,301 | 55,857 | 56,414 | 55,626 | 56,182 | 56,739 |
| | Hourly | <u>79,577</u> | <u>79,577</u> | <u>79,577</u> | <u>83,642</u> | <u>83,642</u> | <u>83,642</u> |
| | Total <u>b/</u> | <u>134,878</u> | <u>135,434</u> | <u>135,991</u> | <u>139,268</u> | <u>139,824</u> | <u>140,381</u> |
| | Total net revenue <u>c/</u> | -43,077 | -36,884 | -30,690 | -47,467 | -41,274 | -35,080 |
| 6,000 | Total revenue | 367,200 | 394,200 | 421,200 | 367,200 | 394,200 | 421,200 |
| | Operating cost: | | | | | | |
| | Annual | 188,307 | 190,535 | 192,762 | 189,609 | 191,837 | 194,064 |
| | Hourly | <u>230,630</u> | <u>230,630</u> | <u>230,630</u> | <u>246,895</u> | <u>246,895</u> | <u>246,895</u> |
| | Total <u>b/</u> | <u>418,937</u> | <u>421,165</u> | <u>423,392</u> | <u>436,504</u> | <u>438,732</u> | <u>440,959</u> |
| | Total net revenue <u>c/</u> | -51,737 | -26,965 | -2,192 | -69,304 | -44,532 | -19,759 |
| 12,000 | Total revenue | 734,400 | 788,400 | 842,400 | 734,400 | 788,400 | 842,400 |
| | Operating cost: | | | | | | |
| | Annual | 304,344 | 308,799 | 313,254 | 306,946 | 311,401 | 315,856 |
| | Hourly | <u>427,976</u> | <u>427,976</u> | <u>427,976</u> | <u>460,506</u> | <u>460,506</u> | <u>460,506</u> |
| | Total <u>b/</u> | <u>732,320</u> | <u>736,775</u> | <u>741,230</u> | <u>767,452</u> | <u>771,907</u> | <u>776,362</u> |
| | Total net revenue <u>c/</u> | 2,080 | 51,625 | 101,170 | -33,052 | 16,493 | 66,038 |
| 18,000 | Total revenue | 1,101,600 | 1,182,600 | 1,263,600 | 1,101,600 | 1,182,600 | 1,263,600 |
| | Operating cost: | | | | | | |
| | Annual | 428,845 | 435,527 | 442,210 | 432,748 | 439,430 | 446,113 |
| | Hourly | <u>652,510</u> | <u>652,510</u> | <u>652,510</u> | <u>701,305</u> | <u>701,305</u> | <u>701,305</u> |
| | Total <u>b/</u> | <u>1,081,355</u> | <u>1,088,037</u> | <u>1,094,720</u> | <u>1,134,053</u> | <u>1,140,735</u> | <u>1,147,418</u> |
| | Total net revenue <u>c/</u> | 20,245 | 94,563 | 168,880 | -32,453 | 41,865 | 116,182 |
| 22,500 | Total revenue | 1,376,918 | 1,478,160 | 1,579,403 | 1,376,918 | 1,478,160 | 1,579,403 |
| | Operating cost: | | | | | | |
| | Annual | 489,445 | 497,797 | 506,150 | 494,325 | 502,677 | 511,030 |
| | Hourly | <u>787,928</u> | <u>787,928</u> | <u>787,928</u> | <u>848,923</u> | <u>848,923</u> | <u>848,923</u> |
| | Total <u>b/</u> | <u>1,277,373</u> | <u>1,285,725</u> | <u>1,294,078</u> | <u>1,343,248</u> | <u>1,351,600</u> | <u>1,359,953</u> |
| | Total net revenue <u>c/</u> | 99,545 | 192,435 | 285,325 | 33,670 | 126,560 | 219,450 |

a/ Operating efficiency of 90 percent.

b/ Excluding depreciation and interest on initial investment and income taxes.

c/ Returns to building, equipment, and land.

Appendix Table 9 --Leafy greens: Annual net revenue for freezing plants with selected hourly processing capacities and 700 hour seasons a/

| Hourly finished product capacity (pounds) | Item | Raw product cost | | | | | |
|---|-----------------------------|--------------------------------------|------------------|------------------|------------------|------------------|------------------|
| | | \$30/ton | | | \$40/ton | | |
| | | Finished product price (cents/pound) | | | | | |
| | | 13.6 | 14.6 | 15.6 | 13.6 | 14.6 | 15.6 |
| -----dollars----- | | | | | | | |
| 1,500 | Total revenue | 128,521 | 137,970 | 147,421 | 128,521 | 137,970 | 147,421 |
| | Operating cost: | | | | | | |
| | Annual | 60,457 | 61,237 | 62,016 | 60,912 | 61,692 | 62,471 |
| | Hourly | <u>106,050</u> | <u>106,050</u> | <u>106,050</u> | <u>111,741</u> | <u>111,741</u> | <u>111,741</u> |
| | Total <u>b/</u> | <u>166,507</u> | <u>167,287</u> | <u>168,066</u> | <u>172,653</u> | <u>173,433</u> | <u>174,212</u> |
| | Total net revenue <u>c/</u> | -37,986 | -29,317 | -20,645 | -44,132 | -35,463 | -26,791 |
| 6,000 | Total revenue | 514,080 | 551,880 | 589,680 | 514,080 | 551,880 | 589,680 |
| | Operating cost: | | | | | | |
| | Annual | 207,323 | 210,442 | 213,560 | 209,145 | 212,264 | 215,382 |
| | Hourly | <u>316,311</u> | <u>316,311</u> | <u>316,311</u> | <u>339,082</u> | <u>339,082</u> | <u>339,082</u> |
| | Total <u>b/</u> | <u>523,634</u> | <u>526,753</u> | <u>529,871</u> | <u>548,227</u> | <u>551,346</u> | <u>554,464</u> |
| | Total net revenue <u>c/</u> | -9,554 | 25,127 | 59,809 | -34,147 | 534 | 35,216 |
| 12,000 | Total revenue | 1,028,160 | 1,103,760 | 1,179,360 | 1,028,160 | 1,103,760 | 1,179,360 |
| | Operating cost: | | | | | | |
| | Annual | 341,537 | 347,774 | 354,011 | 345,180 | 351,417 | 357,654 |
| | Hourly | <u>588,860</u> | <u>588,860</u> | <u>588,860</u> | <u>634,402</u> | <u>634,402</u> | <u>634,402</u> |
| | Total <u>b/</u> | <u>930,397</u> | <u>936,634</u> | <u>942,871</u> | <u>979,582</u> | <u>985,819</u> | <u>992,056</u> |
| | Total net revenue <u>c/</u> | 97,763 | 167,126 | 236,489 | 48,578 | 117,941 | 187,304 |
| 18,000 | Total revenue | 1,542,240 | 1,655,640 | 1,769,040 | 1,542,240 | 1,655,640 | 1,769,040 |
| | Operating cost: | | | | | | |
| | Annual | 484,613 | 493,968 | 503,324 | 490,078 | 499,433 | 508,789 |
| | Hourly | <u>893,546</u> | <u>893,546</u> | <u>893,546</u> | <u>961,859</u> | <u>961,859</u> | <u>961,859</u> |
| | Total <u>b/</u> | <u>1,378,159</u> | <u>1,387,514</u> | <u>1,396,870</u> | <u>1,451,937</u> | <u>1,461,292</u> | <u>1,470,648</u> |
| | Total net revenue <u>c/</u> | 164,081 | 268,126 | 372,170 | 90,303 | 194,348 | 298,392 |
| 22,500 | Total revenue | 1,927,801 | 2,069,550 | 2,211,301 | 1,927,801 | 2,069,550 | 2,211,301 |
| | Operating cost: | | | | | | |
| | Annual | 558,678 | 570,372 | 582,066 | 565,510 | 577,204 | 588,898 |
| | Hourly | <u>1,083,152</u> | <u>1,083,152</u> | <u>1,083,152</u> | <u>1,168,545</u> | <u>1,168,545</u> | <u>1,168,545</u> |
| | Total <u>b/</u> | <u>1,641,830</u> | <u>1,653,524</u> | <u>1,665,218</u> | <u>1,734,055</u> | <u>1,745,749</u> | <u>1,757,443</u> |
| | Total net revenue <u>c/</u> | 285,971 | 416,026 | 546,083 | 193,746 | 323,801 | 453,858 |

a/ Operating efficiency of 90 percent.

b/ Excluding depreciation and interest on initial investment and income taxes.

c/ Returns to building, equipment, and land.

Appendix Table 10.--Okra: Annual net revenue for freezing plants with selected hourly processing capacities and 100 hour seasons a/

| Hourly finished product capacity (pounds) | Item | Raw product cost | | | | | |
|---|-----------------------------|--------------------------------------|----------------|----------------|----------------|----------------|----------------|
| | | \$60/ton | | | \$80/ton | | |
| | | Finished product price (cents/pound) | | | | | |
| | | 23.6 | 25.6 | 27.6 | 23.6 | 25.6 | 27.6 |
| -----dollars----- | | | | | | | |
| 1,500 | Total revenue | 31,861 | 34,561 | 37,261 | 31,861 | 34,561 | 37,261 |
| | Operating cost: | | | | | | |
| | Annual | 52,994 | 53,216 | 53,439 | 53,124 | 53,346 | 53,569 |
| | Hourly | <u>28,645</u> | <u>28,645</u> | <u>28,645</u> | <u>30,271</u> | <u>30,271</u> | <u>30,271</u> |
| | Total <u>b/</u> | <u>81,639</u> | <u>81,861</u> | <u>82,084</u> | <u>83,395</u> | <u>83,617</u> | <u>83,840</u> |
| | Total net revenue <u>c/</u> | -49,778 | -47,300 | -44,823 | -51,534 | -49,056 | -46,579 |
| 6,000 | Total revenue | 127,440 | 138,240 | 149,040 | 127,440 | 138,240 | 149,040 |
| | Operating cost: | | | | | | |
| | Annual | 147,619 | 148,510 | 149,401 | 148,140 | 149,031 | 149,922 |
| | Hourly | <u>71,754</u> | <u>71,754</u> | <u>71,754</u> | <u>78,260</u> | <u>78,260</u> | <u>78,260</u> |
| | Total <u>b/</u> | <u>219,373</u> | <u>220,264</u> | <u>221,155</u> | <u>226,400</u> | <u>227,291</u> | <u>228,182</u> |
| | Total net revenue <u>c/</u> | -91,933 | -82,024 | -72,115 | -98,960 | -89,051 | -79,142 |
| 12,000 | Total revenue | 254,880 | 276,480 | 298,080 | 254,880 | 276,480 | 298,080 |
| | Operating cost: | | | | | | |
| | Annual | 230,784 | 232,566 | 234,348 | 231,825 | 233,607 | 235,389 |
| | Hourly | <u>131,308</u> | <u>131,308</u> | <u>131,308</u> | <u>144,320</u> | <u>144,320</u> | <u>144,320</u> |
| | Total <u>b/</u> | <u>362,092</u> | <u>363,874</u> | <u>365,656</u> | <u>376,145</u> | <u>377,927</u> | <u>379,709</u> |
| | Total net revenue <u>c/</u> | -107,212 | -87,394 | -67,576 | -121,265 | -101,447 | -81,629 |

a/ Operating efficiency of 90 percent.

b/ Excluding depreciation and interest on initial investment and income taxes.

c/ Returns to building, equipment, and land.

Appendix Table 11.--Okra: Annual net revenue for freezing plants with selected hourly processing capacities and 300 hour seasons a/

| Hourly finished product capacity (pounds) | Item | Raw product cost | | | | | |
|---|-----------------------------|--------------------------------------|----------------|----------------|----------------|----------------|----------------|
| | | \$60/ton | | | \$80/ton | | |
| | | Finished product price (cents/pound) | | | | | |
| | | 23.6 | 25.6 | 27.6 | 23.6 | 25.6 | 27.6 |
| -----dollars----- | | | | | | | |
| 1,500 | Total revenue | 95,581 | 103,680 | 111,781 | 95,581 | 103,680 | 111,781 |
| | Operating cost: | | | | | | |
| | Annual | 61,130 | 61,798 | 62,466 | 61,520 | 62,188 | 62,856 |
| | Hourly | <u>64,364</u> | <u>64,364</u> | <u>64,364</u> | <u>69,242</u> | <u>69,242</u> | <u>69,242</u> |
| | Total <u>b/</u> | <u>125,494</u> | <u>126,162</u> | <u>126,830</u> | <u>130,762</u> | <u>131,430</u> | <u>132,098</u> |
| | Total net revenue <u>c/</u> | -29,913 | -22,482 | -15,049 | -35,181 | -27,750 | -20,317 |
| 6,000 | Total revenue | 382,320 | 414,720 | 447,120 | 382,320 | 414,720 | 447,120 |
| | Operating cost: | | | | | | |
| | Annual | 185,043 | 187,716 | 190,389 | 186,605 | 189,278 | 191,951 |
| | Hourly | <u>198,966</u> | <u>198,966</u> | <u>198,966</u> | <u>218,484</u> | <u>218,484</u> | <u>218,484</u> |
| | Total <u>b/</u> | <u>384,009</u> | <u>386,682</u> | <u>389,355</u> | <u>405,089</u> | <u>407,762</u> | <u>410,435</u> |
| | Total net revenue <u>c/</u> | -1,689 | 28,038 | 57,765 | -22,769 | 6,958 | 36,685 |
| 12,000 | Total revenue | 764,640 | 829,440 | 894,240 | 764,640 | 829,440 | 894,240 |
| | Operating cost: | | | | | | |
| | Annual | 298,597 | 303,943 | 309,289 | 301,720 | 307,066 | 312,412 |
| | Hourly | <u>367,711</u> | <u>367,711</u> | <u>367,711</u> | <u>406,747</u> | <u>406,747</u> | <u>406,747</u> |
| | Total <u>b/</u> | <u>666,308</u> | <u>671,654</u> | <u>677,000</u> | <u>708,467</u> | <u>713,813</u> | <u>719,159</u> |
| | Total net revenue <u>c/</u> | 98,332 | 157,786 | 217,240 | 56,173 | 115,627 | 175,081 |

a/ Operating efficiency of 90 percent.

b/ Excluding depreciation and interest on initial investment and income taxes.

c/ Returns to building, equipment, and land.

Appendix Table 12.--Okra: Annual net revenue for freezing plants with selected hourly processing capacities and 500 hour seasons a/

| Hourly finished product capacity (pounds) | Item | Raw product cost | | | | | |
|---|-----------------------------|--------------------------------------|----------------|----------------|------------------|------------------|------------------|
| | | \$60/ton | | | \$80/ton | | |
| | | Finished product price (cents/pound) | | | | | |
| | | 23.6 | 25.6 | 27.6 | 23.6 | 25.6 | 27.6 |
| | | -----dollars----- | | | | | |
| 1,500 | Total revenue | 159,301 | 172,801 | 186,301 | 159,301 | 172,801 | 186,301 |
| | Operating cost: | | | | | | |
| | Annual | 69,344 | 70,458 | 71,572 | 69,994 | 71,108 | 72,222 |
| | Hourly | <u>101,144</u> | <u>101,144</u> | <u>101,144</u> | <u>109,274</u> | <u>109,274</u> | <u>109,274</u> |
| | Total <u>b/</u> | <u>170,488</u> | <u>171,602</u> | <u>172,716</u> | <u>179,268</u> | <u>180,382</u> | <u>181,496</u> |
| | Total net revenue <u>c/</u> | -11,187 | 1,199 | 13,585 | -19,967 | -7,581 | 4,805 |
| 6,000 | Total revenue | 637,200 | 691,200 | 745,700 | 637,200 | 691,200 | 745,700 |
| | Operating cost: | | | | | | |
| | Annual | 215,876 | 220,331 | 224,827 | 218,479 | 222,934 | 227,430 |
| | Hourly | <u>320,731</u> | <u>320,731</u> | <u>320,731</u> | <u>353,261</u> | <u>353,261</u> | <u>353,261</u> |
| | Total <u>b/</u> | <u>536,607</u> | <u>541,062</u> | <u>545,558</u> | <u>571,740</u> | <u>576,195</u> | <u>580,691</u> |
| | Total net revenue <u>c/</u> | 100,593 | 150,138 | 200,142 | 65,460 | 115,005 | 165,009 |
| 12,000 | Total revenue | 1,274,400 | 1,382,400 | 1,490,400 | 1,274,400 | 1,382,400 | 1,490,400 |
| | Operating cost: | | | | | | |
| | Annual | 365,463 | 374,373 | 383,283 | 370,668 | 379,578 | 388,488 |
| | Hourly | <u>612,413</u> | <u>612,413</u> | <u>612,413</u> | <u>677,473</u> | <u>677,473</u> | <u>677,473</u> |
| | Total <u>b/</u> | <u>977,876</u> | <u>986,786</u> | <u>995,696</u> | <u>1,048,141</u> | <u>1,057,051</u> | <u>1,065,961</u> |
| | Total net revenue <u>c/</u> | 296,524 | 395,614 | 494,704 | 226,259 | 325,349 | 424,439 |

a/ Operating efficiency of 90 percent.

b/ Excluding depreciation and interest on initial investment and income taxes.

c/ Returns to building, equipment, and land.

Appendix Table 13.--Southern peas: Annual net revenue for freezing plants with selected hourly processing capacities and 300 hour seasons a/

| Hourly finished product capacity (pounds) | Item | Raw product cost | | | | | |
|---|-----------------------------|--------------------------------------|------------------|------------------|------------------|------------------|------------------|
| | | \$175/ton | | | \$200/ton | | |
| | | Finished product price (cents/pound) | | | | | |
| | | 22.0 | 24.0 | 26.0 | 22.0 | 24.0 | 26.0 |
| | | -----dollars----- | | | | | |
| 1,500 | Total revenue | 89,100 | 97,175 | 105,300 | 89,100 | 97,175 | 105,300 |
| | Operating cost: | | | | | | |
| | Annual | 58,575 | 59,242 | 59,911 | 59,002 | 59,669 | 60,338 |
| | Hourly | <u>77,492</u> | <u>77,492</u> | <u>77,492</u> | <u>82,824</u> | <u>82,824</u> | <u>82,824</u> |
| | Total <u>b/</u> | <u>136,067</u> | <u>136,734</u> | <u>137,403</u> | <u>141,826</u> | <u>142,493</u> | <u>143,162</u> |
| | Total net revenue <u>c/</u> | -46,967 | -39,559 | -32,103 | -52,726 | -45,318 | -37,862 |
| 6,000 | Total revenue | 356,400 | 388,800 | 421,200 | 356,400 | 388,800 | 421,200 |
| | Operating cost: | | | | | | |
| | Annual | 185,239 | 187,912 | 190,585 | 186,944 | 189,617 | 192,290 |
| | Hourly | <u>257,350</u> | <u>257,350</u> | <u>257,350</u> | <u>278,665</u> | <u>278,665</u> | <u>278,665</u> |
| | Total <u>b/</u> | <u>442,589</u> | <u>445,262</u> | <u>447,935</u> | <u>465,609</u> | <u>468,282</u> | <u>470,955</u> |
| | Total net revenue <u>c/</u> | -86,189 | -56,462 | -26,735 | -109,209 | -79,482 | -49,755 |
| 12,000 | Total revenue | 712,800 | 777,600 | 842,400 | 712,800 | 777,600 | 842,400 |
| | Operating cost: | | | | | | |
| | Annual | 296,502 | 301,848 | 307,194 | 299,913 | 305,259 | 310,605 |
| | Hourly | <u>482,355</u> | <u>482,355</u> | <u>482,355</u> | <u>524,985</u> | <u>524,985</u> | <u>524,985</u> |
| | Total <u>b/</u> | <u>778,857</u> | <u>784,203</u> | <u>789,549</u> | <u>824,898</u> | <u>830,244</u> | <u>835,590</u> |
| | Total net revenue <u>c/</u> | -66,057 | -6,603 | 52,851 | -112,098 | -52,644 | 6,810 |
| 18,000 | Total revenue | 1,069,200 | 1,166,400 | 1,263,600 | 1,069,200 | 1,166,400 | 1,263,600 |
| | Operating cost: | | | | | | |
| | Annual | 395,699 | 403,718 | 411,737 | 400,815 | 408,834 | 416,853 |
| | Hourly | <u>716,268</u> | <u>716,268</u> | <u>716,268</u> | <u>780,213</u> | <u>780,213</u> | <u>780,213</u> |
| | Total <u>b/</u> | <u>1,111,967</u> | <u>1,119,986</u> | <u>1,128,005</u> | <u>1,181,028</u> | <u>1,189,047</u> | <u>1,197,066</u> |
| | Total net revenue <u>c/</u> | -42,767 | 46,414 | 135,595 | -111,828 | -22,647 | 66,534 |
| 22,500 | Total revenue | 1,336,500 | 1,458,000 | 1,579,500 | 1,336,500 | 1,458,000 | 1,579,500 |
| | Operating cost: | | | | | | |
| | Annual | 458,872 | 468,896 | 478,920 | 465,267 | 475,291 | 485,315 |
| | Hourly | <u>886,605</u> | <u>886,605</u> | <u>886,605</u> | <u>966,540</u> | <u>966,540</u> | <u>966,540</u> |
| | Total <u>b/</u> | <u>1,345,477</u> | <u>1,355,501</u> | <u>1,365,525</u> | <u>1,431,807</u> | <u>1,441,831</u> | <u>1,451,855</u> |
| | Total net revenue <u>c/</u> | -8,977 | 102,499 | 213,975 | -95,307 | 16,169 | 127,645 |

a/ Operating efficiency of 90 percent.

b/ Excluding depreciation and interest on initial investment and income taxes.

c/ Returns to building, equipment, and land.

Appendix Table 14.--Southern peas: Annual net revenue for freezing plants with selected hourly processing capacities and 500 hour seasons a/

| Hourly finished product capacity (pounds) | Item | Raw product cost | | | | | |
|---|-----------------------------|--------------------------------------|------------------|------------------|------------------|------------------|------------------|
| | | \$175/ton | | | \$200/ton | | |
| | | Finished product price (cents/pound) | | | | | |
| | | 22.0 | 24.0 | 26.0 | 22.0 | 24.0 | 26.0 |
| -----dollars----- | | | | | | | |
| 1,500 | Total revenue | 148,500 | 162,000 | 175,500 | 148,500 | 162,000 | 175,500 |
| | Operating cost: | | | | | | |
| | Annual | 67,076 | 68,190 | 69,304 | 67,787 | 68,901 | 70,015 |
| | Hourly | <u>122,317</u> | <u>122,317</u> | <u>122,317</u> | <u>131,204</u> | <u>131,204</u> | <u>131,204</u> |
| | Total <u>b/</u> | <u>189,393</u> | <u>190,507</u> | <u>191,621</u> | <u>198,991</u> | <u>200,105</u> | <u>201,219</u> |
| | Total net revenue <u>c/</u> | -40,893 | -28,507 | -16,121 | -50,491 | -38,105 | -25,719 |
| 6,000 | Total revenue | 594,000 | 648,000 | 702,000 | 594,000 | 648,000 | 702,000 |
| | Operating cost: | | | | | | |
| | Annual | 217,752 | 222,207 | 226,662 | 220,594 | 225,049 | 229,504 |
| | Hourly | <u>417,944</u> | <u>417,944</u> | <u>417,944</u> | <u>453,469</u> | <u>453,469</u> | <u>453,469</u> |
| | Total <u>b/</u> | <u>635,696</u> | <u>640,151</u> | <u>644,606</u> | <u>674,063</u> | <u>678,518</u> | <u>682,973</u> |
| | Total net revenue <u>c/</u> | -41,696 | 7,849 | 57,394 | -80,063 | -30,518 | 19,027 |
| 12,000 | Total revenue | 1,188,000 | 1,296,000 | 1,404,000 | 1,188,000 | 1,296,000 | 1,404,000 |
| | Operating cost: | | | | | | |
| | Annual | 367,101 | 376,011 | 384,921 | 372,784 | 381,694 | 390,604 |
| | Hourly | <u>803,721</u> | <u>803,721</u> | <u>803,721</u> | <u>874,771</u> | <u>874,771</u> | <u>874,771</u> |
| | Total <u>b/</u> | <u>1,170,822</u> | <u>1,179,732</u> | <u>1,188,642</u> | <u>1,247,555</u> | <u>1,256,465</u> | <u>1,265,375</u> |
| | Total net revenue <u>c/</u> | 17,178 | 116,268 | 215,358 | -59,555 | 39,535 | 138,625 |
| 18,000 | Total revenue | 1,782,000 | 1,944,000 | 2,106,000 | 1,782,000 | 1,944,000 | 2,106,000 |
| | Operating cost: | | | | | | |
| | Annual | 506,233 | 519,598 | 532,963 | 514,759 | 528,124 | 541,489 |
| | Hourly | <u>1,203,530</u> | <u>1,203,530</u> | <u>1,203,530</u> | <u>1,310,105</u> | <u>1,310,105</u> | <u>1,310,105</u> |
| | Total <u>b/</u> | <u>1,709,763</u> | <u>1,723,128</u> | <u>1,736,493</u> | <u>1,824,864</u> | <u>1,838,229</u> | <u>1,851,594</u> |
| | Total net revenue <u>c/</u> | 72,237 | 220,872 | 369,507 | -42,864 | 105,771 | 254,406 |
| 22,500 | Total revenue | 2,227,500 | 2,430,000 | 2,632,500 | 2,227,500 | 2,430,000 | 2,632,500 |
| | Operating cost: | | | | | | |
| | Annual | 592,225 | 608,931 | 625,637 | 602,883 | 619,589 | 636,295 |
| | Hourly | <u>1,486,549</u> | <u>1,486,549</u> | <u>1,486,549</u> | <u>1,619,774</u> | <u>1,619,774</u> | <u>1,619,774</u> |
| | Total <u>b/</u> | <u>2,078,774</u> | <u>2,095,480</u> | <u>2,112,186</u> | <u>2,222,657</u> | <u>2,239,363</u> | <u>2,256,069</u> |
| | Total net revenue <u>c/</u> | 148,726 | 334,520 | 520,314 | 4,843 | 190,637 | 376,431 |

a/ Operating efficiency of 90 percent.

b/ Excluding depreciation and interest on initial investment and income taxes.

c/ Returns to building, equipment, and land.

Appendix Table 15.--Southern peas: Annual net revenue for freezing plants with selected hourly processing capacities and 700 hour seasons a/

| Hourly finished product capacity (pounds) | Item | Raw product cost | | | | | |
|---|-----------------------------|--------------------------------------|------------------|------------------|------------------|------------------|------------------|
| | | \$175/ton | | | \$200/ton | | |
| | | Finished product price (cents/pound) | | | | | |
| | | 22.0 | 24.0 | 26.0 | 22.0 | 24.0 | 26.0 |
| -----dollars----- | | | | | | | |
| 1,500 | Total revenue | 207,900 | 226,800 | 245,700 | 207,900 | 226,800 | 245,700 |
| | Operating cost: | | | | | | |
| | Annual | 75,550 | 77,109 | 78,668 | 76,545 | 78,104 | 79,663 |
| | Hourly | <u>166,853</u> | <u>166,853</u> | <u>166,853</u> | <u>179,295</u> | <u>179,295</u> | <u>179,295</u> |
| | Total <u>b/</u> | <u>242,403</u> | <u>243,962</u> | <u>245,521</u> | <u>255,840</u> | <u>257,399</u> | <u>258,958</u> |
| | Total net revenue <u>c/</u> | -34,503 | -17,162 | 179 | -47,940 | -30,599 | -13,258 |
| 6,000 | Total revenue | 831,600 | 907,200 | 982,800 | 831,600 | 907,200 | 982,800 |
| | Operating cost: | | | | | | |
| | Annual | 250,247 | 256,484 | 262,721 | 254,226 | 260,463 | 266,700 |
| | Hourly | <u>578,551</u> | <u>578,551</u> | <u>578,551</u> | <u>628,286</u> | <u>628,286</u> | <u>628,286</u> |
| | Total <u>b/</u> | <u>828,798</u> | <u>835,035</u> | <u>841,272</u> | <u>882,512</u> | <u>888,749</u> | <u>894,986</u> |
| | Total net revenue <u>c/</u> | 2,802 | 72,165 | 141,528 | -50,912 | 18,451 | 87,814 |
| 12,000 | Total revenue | 1,663,200 | 1,814,400 | 1,965,600 | 1,663,200 | 1,814,400 | 1,965,600 |
| | Operating cost: | | | | | | |
| | Annual | 431,544 | 444,018 | 456,492 | 439,501 | 451,975 | 464,449 |
| | Hourly | <u>1,115,097</u> | <u>1,115,097</u> | <u>1,115,097</u> | <u>1,214,567</u> | <u>1,214,567</u> | <u>1,214,567</u> |
| | Total <u>b/</u> | <u>1,546,641</u> | <u>1,559,115</u> | <u>1,571,589</u> | <u>1,654,068</u> | <u>1,666,542</u> | <u>1,679,016</u> |
| | Total net revenue <u>c/</u> | 116,559 | 255,285 | 394,011 | 9,132 | 147,858 | 286,584 |
| 18,000 | Total revenue | 2,494,800 | 2,721,600 | 2,948,400 | 2,494,800 | 2,721,600 | 2,948,400 |
| | Operating cost: | | | | | | |
| | Annual | 602,473 | 621,184 | 639,895 | 614,410 | 633,121 | 651,832 |
| | Hourly | <u>1,665,260</u> | <u>1,665,260</u> | <u>1,665,260</u> | <u>1,814,465</u> | <u>1,814,465</u> | <u>1,814,465</u> |
| | Total <u>b/</u> | <u>2,267,733</u> | <u>2,286,444</u> | <u>2,305,155</u> | <u>2,428,875</u> | <u>2,447,586</u> | <u>2,466,297</u> |
| | Total net revenue <u>c/</u> | 227,067 | 435,156 | 643,245 | 65,925 | 274,014 | 482,103 |
| 22,500 | Total revenue | 3,118,500 | 3,402,000 | 3,685,500 | 3,118,500 | 3,402,000 | 3,685,500 |
| | Operating cost: | | | | | | |
| | Annual | 712,228 | 735,617 | 759,006 | 727,149 | 750,538 | 773,927 |
| | Hourly | <u>2,061,567</u> | <u>2,061,567</u> | <u>2,061,567</u> | <u>2,248,082</u> | <u>2,248,082</u> | <u>2,248,082</u> |
| | Total <u>b/</u> | <u>2,773,795</u> | <u>2,797,184</u> | <u>2,820,573</u> | <u>2,975,231</u> | <u>2,998,620</u> | <u>3,022,009</u> |
| | Total net revenue <u>c/</u> | 344,705 | 604,816 | 864,927 | 143,269 | 403,380 | 663,491 |

a/ Operating efficiency of 90 percent.

b/ Excluding depreciation and interest on initial investment and income taxes.

c/ Returns to building, equipment, and land.

Appendix Table 16.--Squash: Annual net revenue for freezing plants with selected hourly processing capacities and 100 hour seasons a/

| Hourly finished product capacity (pounds) | Item | Raw product cost | | | | | |
|---|-----------------------------|--------------------------------------|----------------|----------------|----------------|----------------|----------------|
| | | \$80/ton | | | \$100/ton | | |
| | | Finished product price (cents/pound) | | | | | |
| | | 16.3 | 17.3 | 18.3 | 16.3 | 17.3 | 18.3 |
| | | -----dollars----- | | | | | |
| 1,500 | Total revenue | 22,006 | 23,355 | 24,706 | 22,006 | 23,355 | 24,706 |
| | Operating cost: | | | | | | |
| | Annual | 52,096 | 52,207 | 52,319 | 52,223 | 52,334 | 52,446 |
| | Hourly | <u>26,926</u> | <u>26,926</u> | <u>26,926</u> | <u>28,514</u> | <u>28,514</u> | <u>28,514</u> |
| | Total <u>b/</u> | <u>79,022</u> | <u>79,133</u> | <u>79,245</u> | <u>80,737</u> | <u>80,848</u> | <u>80,960</u> |
| | Total net revenue <u>c/</u> | -57,016 | -55,778 | -54,539 | -58,731 | -57,493 | -56,254 |
| 6,000 | Total revenue | 88,020 | 93,420 | 98,820 | 88,020 | 93,420 | 98,820 |
| | Operating cost: | | | | | | |
| | Annual | 143,293 | 143,739 | 144,184 | 143,801 | 144,247 | 144,692 |
| | Hourly | <u>66,233</u> | <u>66,233</u> | <u>66,233</u> | <u>72,587</u> | <u>72,587</u> | <u>72,587</u> |
| | Total <u>b/</u> | <u>209,526</u> | <u>209,972</u> | <u>210,417</u> | <u>216,388</u> | <u>216,834</u> | <u>217,279</u> |
| | Total net revenue <u>c/</u> | -121,506 | -116,552 | -111,597 | -128,368 | -123,414 | -118,459 |
| 12,000 | Total revenue | 176,040 | 186,840 | 197,640 | 176,040 | 186,840 | 197,640 |
| | Operating cost: | | | | | | |
| | Annual | 221,531 | 222,422 | 223,313 | 222,548 | 223,439 | 224,330 |
| | Hourly | <u>118,379</u> | <u>118,379</u> | <u>118,379</u> | <u>131,085</u> | <u>131,085</u> | <u>131,085</u> |
| | Total <u>b/</u> | <u>339,910</u> | <u>340,801</u> | <u>341,692</u> | <u>353,633</u> | <u>354,524</u> | <u>355,415</u> |
| | Total net revenue <u>c/</u> | -163,870 | -153,961 | -144,052 | -177,593 | -167,684 | -157,775 |
| 18,000 | Total revenue | 264,060 | 280,260 | 296,460 | 264,060 | 280,260 | 296,460 |
| | Operating cost: | | | | | | |
| | Annual | 297,590 | 298,927 | 300,263 | 299,114 | 300,451 | 301,787 |
| | Hourly | <u>178,810</u> | <u>178,810</u> | <u>178,810</u> | <u>197,868</u> | <u>197,868</u> | <u>197,868</u> |
| | Total <u>b/</u> | <u>476,400</u> | <u>477,737</u> | <u>479,073</u> | <u>496,982</u> | <u>498,319</u> | <u>499,655</u> |
| | Total net revenue <u>c/</u> | -212,340 | -197,477 | -182,613 | -232,922 | -218,059 | -203,195 |
| 22,500 | Total revenue | 330,076 | 350,325 | 370,576 | 330,076 | 350,325 | 370,576 |
| | Operating cost: | | | | | | |
| | Annual | 331,183 | 332,852 | 334,524 | 333,088 | 334,757 | 336,429 |
| | Hourly | <u>217,919</u> | <u>217,919</u> | <u>217,919</u> | <u>241,743</u> | <u>241,743</u> | <u>241,743</u> |
| | Total <u>b/</u> | <u>549,102</u> | <u>550,771</u> | <u>552,443</u> | <u>574,831</u> | <u>576,500</u> | <u>578,172</u> |
| | Total net revenue <u>c/</u> | -219,026 | -200,446 | -181,867 | -244,755 | -226,175 | -207,596 |

a/ Operating efficiency of 90 percent.

b/ Excluding depreciation and interest on initial investment and income taxes.

c/ Returns to building, equipment, and land.

Appendix Table 17.--Squash: Annual net revenue for freezing plants with selected hourly processing capacities and 300 hour seasons a/

| Hourly finished product capacity (pounds) | Item | Raw product cost | | | | | |
|---|-----------------------------|--------------------------------------|------------------|------------------|------------------|------------------|------------------|
| | | \$80/ton | | | \$100/ton | | |
| | | Finished product price (cents/pound) | | | | | |
| | | 16.3 | 17.3 | 18.3 | 16.3 | 17.3 | 18.3 |
| -----dollars----- | | | | | | | |
| 1,500 | Total revenue | 66,016 | 70,065 | 74,116 | 66,016 | 70,065 | 74,116 |
| | Operating cost: | | | | | | |
| | Annual | 58,443 | 58,777 | 59,111 | 58,824 | 59,158 | 59,492 |
| | Hourly | <u>61,813</u> | <u>61,813</u> | <u>61,813</u> | <u>66,577</u> | <u>66,577</u> | <u>66,577</u> |
| | Total <u>b/</u> | <u>120,256</u> | <u>120,590</u> | <u>120,924</u> | <u>125,401</u> | <u>125,735</u> | <u>126,069</u> |
| | Total net revenue <u>c/</u> | -54,240 | -50,525 | -46,808 | -59,385 | -55,670 | -51,953 |
| 6,000 | Total revenue | 264,060 | 280,260 | 296,460 | 264,060 | 280,260 | 296,460 |
| | Operating cost: | | | | | | |
| | Annual | 173,580 | 174,915 | 176,253 | 175,105 | 176,440 | 177,778 |
| | Hourly | <u>188,004</u> | <u>188,004</u> | <u>188,004</u> | <u>207,066</u> | <u>207,066</u> | <u>207,066</u> |
| | Total <u>b/</u> | <u>361,584</u> | <u>362,919</u> | <u>364,257</u> | <u>382,171</u> | <u>384,844</u> | <u>387,844</u> |
| | Total net revenue <u>c/</u> | -97,524 | -82,659 | -67,797 | -118,111 | -103,246 | -88,384 |
| 12,000 | Total revenue | 528,120 | 560,520 | 592,920 | 528,120 | 560,520 | 592,920 |
| | Operating cost: | | | | | | |
| | Annual | 275,438 | 278,111 | 280,784 | 278,488 | 281,161 | 283,834 |
| | Hourly | <u>346,071</u> | <u>346,071</u> | <u>346,071</u> | <u>384,189</u> | <u>384,189</u> | <u>384,189</u> |
| | Total <u>b/</u> | <u>621,509</u> | <u>624,182</u> | <u>626,855</u> | <u>662,677</u> | <u>665,350</u> | <u>668,023</u> |
| | Total net revenue <u>c/</u> | -93,389 | -63,662 | -33,935 | -134,557 | -104,830 | -75,103 |
| 18,000 | Total revenue | 792,180 | 840,780 | 889,380 | 792,180 | 840,780 | 889,380 |
| | Operating cost: | | | | | | |
| | Annual | 373,553 | 377,563 | 381,572 | 378,127 | 382,137 | 386,146 |
| | Hourly | <u>513,757</u> | <u>513,757</u> | <u>513,757</u> | <u>570,931</u> | <u>570,931</u> | <u>570,931</u> |
| | Total <u>b/</u> | <u>887,310</u> | <u>891,320</u> | <u>895,329</u> | <u>949,058</u> | <u>953,068</u> | <u>957,077</u> |
| | Total net revenue <u>c/</u> | -95,130 | -50,540 | -5,949 | -156,878 | -112,288 | -67,697 |
| 22,500 | Total revenue | 990,226 | 1,050,975 | 1,111,726 | 990,226 | 1,050,975 | 1,111,726 |
| | Operating cost: | | | | | | |
| | Annual | 424,739 | 429,752 | 434,762 | 430,457 | 435,470 | 440,480 |
| | Hourly | <u>631,023</u> | <u>631,023</u> | <u>631,023</u> | <u>702,495</u> | <u>702,495</u> | <u>702,495</u> |
| | Total <u>b/</u> | <u>1,055,762</u> | <u>1,060,775</u> | <u>1,065,785</u> | <u>1,132,952</u> | <u>1,137,965</u> | <u>1,142,975</u> |
| | Total net revenue <u>c/</u> | -65,536 | -9,800 | 45,941 | -142,726 | -86,990 | -31,249 |

a/ Operating efficiency of 90 percent.

b/ Excluding depreciation and interest on initial investment and income taxes.

c/ Returns to building, equipment, and land.

Appendix Table 18.--Squash: Annual net revenue for freezing plants with selected hourly processing capacities and 500 hour seasons a/

| Hourly finished product capacity (pounds) | Item | Raw product cost | | | | | |
|---|-----------------------------|--------------------------------------|------------------|------------------|------------------|------------------|------------------|
| | | \$80/ton | | | \$100/ton | | |
| | | Finished product price (cents/pound) | | | | | |
| | | 16.3 | 17.3 | 18.3 | 16.3 | 17.3 | 18.3 |
| -----dollars----- | | | | | | | |
| 1,500 | Total revenue | 110,026 | 116,775 | 123,526 | 110,026 | 116,775 | 123,526 |
| | Operating cost: | | | | | | |
| | Annual | 64,985 | 65,544 | 66,099 | 65,620 | 66,179 | 66,734 |
| | Hourly | <u>96,794</u> | <u>96,794</u> | <u>96,794</u> | <u>104,734</u> | <u>104,734</u> | <u>104,734</u> |
| | Total <u>b/</u> | <u>161,779</u> | <u>162,338</u> | <u>162,893</u> | <u>170,354</u> | <u>170,913</u> | <u>171,468</u> |
| | Total net revenue <u>c/</u> | -51,753 | -45,563 | -39,367 | -60,328 | -54,138 | -47,942 |
| 6,000 | Total revenue | 440,100 | 467,100 | 494,100 | 440,100 | 467,100 | 494,100 |
| | Operating cost: | | | | | | |
| | Annual | 197,513 | 199,741 | 201,968 | 200,055 | 202,283 | 204,510 |
| | Hourly | <u>302,368</u> | <u>302,368</u> | <u>302,368</u> | <u>334,138</u> | <u>334,138</u> | <u>334,138</u> |
| | Total <u>b/</u> | <u>499,881</u> | <u>502,109</u> | <u>504,336</u> | <u>534,193</u> | <u>536,421</u> | <u>538,648</u> |
| | Total net revenue <u>c/</u> | -59,781 | -35,009 | -10,236 | -94,093 | -69,321 | -44,548 |
| 12,000 | Total revenue | 880,200 | 934,200 | 988,200 | 880,200 | 934,200 | 988,200 |
| | Operating cost: | | | | | | |
| | Annual | 328,221 | 332,677 | 337,131 | 333,303 | 337,750 | 342,213 |
| | Hourly | <u>574,026</u> | <u>574,026</u> | <u>574,026</u> | <u>637,556</u> | <u>637,556</u> | <u>637,556</u> |
| | Total <u>b/</u> | <u>902,247</u> | <u>906,703</u> | <u>911,157</u> | <u>970,859</u> | <u>975,306</u> | <u>979,769</u> |
| | Total net revenue <u>c/</u> | -22,047 | 27,497 | 77,043 | -90,659 | -41,106 | 8,431 |
| 18,000 | Total revenue | 1,320,300 | 1,401,300 | 1,482,300 | 1,320,300 | 1,401,300 | 1,482,300 |
| | Operating cost: | | | | | | |
| | Annual | 458,040 | 464,722 | 471,405 | 465,663 | 472,345 | 479,028 |
| | Hourly | <u>865,803</u> | <u>865,803</u> | <u>865,803</u> | <u>961,093</u> | <u>961,093</u> | <u>961,093</u> |
| | Total <u>b/</u> | <u>1,323,843</u> | <u>1,330,525</u> | <u>1,337,208</u> | <u>1,426,756</u> | <u>1,433,438</u> | <u>1,440,121</u> |
| | Total net revenue <u>c/</u> | -3,543 | 70,775 | 145,092 | -106,456 | -32,138 | 42,179 |
| 22,500 | Total revenue | 1,650,376 | 1,751,625 | 1,852,876 | 1,650,376 | 1,751,625 | 1,852,876 |
| | Operating cost: | | | | | | |
| | Annual | 526,372 | 534,723 | 543,078 | 535,902 | 544,253 | 552,608 |
| | Hourly | <u>1,057,101</u> | <u>1,057,101</u> | <u>1,057,101</u> | <u>1,176,221</u> | <u>1,176,221</u> | <u>1,176,221</u> |
| | Total <u>b/</u> | <u>1,583,473</u> | <u>1,591,824</u> | <u>1,600,179</u> | <u>1,712,123</u> | <u>1,720,474</u> | <u>1,728,829</u> |
| | Total net revenue <u>c/</u> | 66,903 | 159,801 | 252,697 | -61,747 | 31,151 | 124,047 |

a/ Operating efficiency of 90 percent.

b/ Excluding depreciation and interest on initial investment and income taxes.

c/ Returns to building, equipment, and land.

